

JONES BLUFF RESERVOIR
MANAGEMENT REPORT
(SPRING 2006)

2005 - 2006

Prepared by

Damon L. Abernethy
District Fisheries Biologist

J. Chris Greene
District Fisheries Supervisor

Rodney A. McVay
District Fisheries Biologist Aide

Department of Conservation and Natural Resources
Wildlife and Freshwater Fisheries Division
Fisheries Section

September 1, 2006

Introduction

Jones Bluff Reservoir, a 12,510 acre impoundment on the Alabama River (Table 1), was previously sampled in 1986, 1989, 1990, 1993, 1996, 1999, and 2002 according to management program guidelines (1999). The reservoir has a short retention time with little water storage capacity resulting in frequent flooding during periods of heavy rain. There are no minimum size limits for black bass on Jones Bluff Reservoir.

Refer to “An Angler’s Guide to Interpreting Alabama Wildlife and Freshwater Fisheries Reservoir Reports” for a detailed description of fisheries terms used in this report. The Angler’s Guide is available on the Department’s website at: <http://www.outdooralabama.com/fishing/freshwater/where/reservoirs/guide.pdf>.

Methods

Electrofishing

Standardized electrofishing samples were collected according to the guidelines presented in the Alabama Reservoir Management Manual (1999). However, during Spring 2006, district personnel initiated a stratified sampling method that included both riverine and backwater areas in an effort to describe the spotted bass population that had not been specifically targeted in previous sample years. It should be noted that in an effort to remain consistent with previous reports, largemouth bass comparisons include 2006 data taken from backwater areas only. Because catch-rates of spotted bass from backwater areas were negligible, population statistics for this species are from riverine sample sites only. Fourteen sites (8 riverine and 6 backwater areas) were sampled for 30 minutes each from April 7 through April 17, 2006 (Figures 1 – 3).

Access Area Creel Survey

A spring creel survey was conducted during 2005 to provide additional information on the bass and crappie fisheries. This survey consisted of sampling one weekend day each week during the months of March, April, and May (10 survey days). Five access areas were utilized: Cooter's Pond, Swift Creek, Gunter Hill, Holy Ground, and Prairie Creek. Boat trailers were counted at each of these access areas prior to conducting the survey and sample probabilities were based upon the frequency and total number of trailers present during preliminary surveys. Catch and harvest information was obtained by interviewing anglers upon trip completion. Largemouth bass and spotted bass total lengths were recorded by 25mm length groups. White crappie and black crappie total lengths were recorded by 10mm length groups.

Access point creel surveys provide the best opportunity to interview the most anglers. However, these surveys mainly encounter boat anglers using public boat ramps and neglect many bank, pier, or resident anglers; thus, the results are often biased towards bass and crappie anglers. Catch and harvest data collected from year to year provide an accurate method of assessing changes in sportfish populations and angler harvest rates.

Largemouth Bass Tracking

Movements of four largemouth bass in Catoma Creek were documented using sonic transmitters from November 17, 2005 through January 19, 2006. On November 17, 2005, four largemouth bass ranging in size from 908g to 2,724g were collected from Catoma Creek, surgically implanted with sonic transmitters, and released immediately back into their capture location to document their movements for a period of 60 days. An attempt to locate each fish was made every two to three days throughout the study period.

After locating each fish, its position was recorded on a topographic map using GPS coordinates. Weather and hydrologic conditions during the study period were examined to identify possible correlations with fish movement (Figures 18 and 19).

Results and Discussion

Electrofishing

During previous sample years, electrofishing was conducted in backwater areas only and fishery statistics were not collected for spotted bass. However, during spring 2006, a stratified sampling method that included both riverine and backwater areas was used in an effort to also describe the spotted bass population. All largemouth bass comparisons made in this report include 2006 data taken from backwater areas only while spotted bass data is taken from riverine sites only.

The CPE of largemouth bass (Table 6) was 40.0 fish per hour, 36% lower than the seven year lake-wide average. Catch-rates of largemouth bass have declined steadily from 91.0 fish per hour in 1996 (McHugh et al. 1997, McHugh et al. 1999, and Rider et al. 2002). Differences in size structure of largemouth bass due to variable recruitment are evident (Table 9). In spring 2006, catch rates by RSD size groups were within the ranges of previous collections except that the catch of preferred-size fish exceeded that of previous collections (Table 6). Mean relative weights of all RSD size groups were below the statewide and the seven-year lakewide average. The abundant year-class produced in 2000 was still evident (Table 9). Growth was slow through Age-3, but exceeded the statewide average by Age-4 (Figure 10). Annual mortality could not be calculated due to variable recruitment.

The CPE of spotted bass was 26.5 fish per hour (Table 7); slightly lower than the statewide average of 31.7 fish per hour. However, CPE of memorable-sized spotted bass was 3.8 fish per hour; more than three times that of the statewide average. In contrast to the largemouth bass population, there was little evidence of variable recruitment among spotted bass in Jones Bluff Reservoir (Table 10). Mean relative weights of all RSD size groups were below the statewide average (Figure 7). Growth was below average through Age-4, but exceeded the statewide average by Age-5 (Figure 11). The length-at-age data and parameters of the von Bertalanffy growth equation suggest that spotted bass in Jones Bluff Reservoir may reach their greatest growth potential after Age-5. Total annual mortality of spotted bass was 44% (Figure 12).

During spring 2006, a total of 151 largemouth bass and 119 spotted bass were collected during 7.0 hours of electrofishing effort (6 backwater sites and 8 riverine sites). An almost complete separation of largemouth bass and spotted bass by habitat-type was evident (Table 8). Of the 151 largemouth bass collected, 80% (N = 120) were from backwater areas. Spotted bass used riverine habitats almost exclusively with 89% (N = 106) of the total sample being collected from those areas. This suggests that the two species are not in direct competition for forage. Furthermore, environmental conditions such as flooding, may not affect both species equally. Seasonal rainfall patterns have been documented to affect crappie year-class strength (Maceina et al. 2002, Maceina and Stimpert 1998) and these same conditions also apparently impact white bass (Abernethy et al. 2005). Variable largemouth bass year-class strength on Jones Bluff Reservoir may also be attributed to these factors.

Access Area Creel Survey

This survey was originally scheduled to coincide with spring 2005 electrofishing; however, due to frequent flooding during April 2005, electrofishing was postponed until spring 2006. The creel survey was not discontinued because anglers were still fishing in the reservoir and because the duration of flooding was not known.

The spring creel survey included interviews of 160 anglers who fished for 872 hours (Table 11); these numbers are roughly 50% of those reported in the 1996 creel survey. Furthermore, the average duration of each angler's fishing trip was 11% lower in spring 2005 than in spring 1996.

During the survey period, 58 bass anglers fished for 336 hours, harvesting none of the 137 fish caught. Bass anglers caught bass at a rate of 0.38 per hour, which is 63% lower than in 1996. None of the bass anglers encountered were tournament anglers. During spring 1996, McHugh et al. (1997) documented that bass anglers harvested nearly 15% of the bass that were caught from Jones Bluff Reservoir.

During the survey period, 84 crappie anglers fished for 445 hours, harvesting 15% of the 216 fish caught. In contrast, during spring 1996, crappie anglers harvested 68% of the crappie caught. Crappie anglers caught crappie at a rate of 0.47 fish per hour and 1.21 fish per hour during spring 2005 and spring 1996, respectively.

Clearly, the quality of angling in Jones Bluff Reservoir during spring 2005 was poor, which is not uncommon when water and turbidity levels are high. These factors have a profound negative effect on angler catch-rates and effort. Unfortunately, reservoirs like Jones Bluff with short retention times and periodic water fluctuations can often have highly variable angling success. In retrospect, this angler creel survey

probably should have been postponed until spring 2006 when water levels were more stable.

Largemouth Bass Tracking

Of the four largemouth bass located during this study, only one made any significant migrations. Overall, fish movement did not appear to be strongly correlated with any environmental or hydrologic variable (Figures 18 and 19). However, the small number of fish used in the study certainly limited our ability to develop any statistically valid conclusions.

Fish #1 (1,362g) moved often, but its range during the study was limited to one stretch of bank no more than 100 meters in length. This fish's home range was located on the north bank of Catoma Creek just upstream of Antioch Branch (Figure 20). This fish used blow-downs near the bank almost exclusively. However, on January 4, 2006, this fish was found chasing shad in open water just offshore of its usual location.

Fish #2 (908g) moved often and although its range was small, it was somewhat larger than Fish #1. This fish's home range was located on the north bank of Catoma Creek just upstream of Antioch Branch in the same location as Fish #1 (Figure 21) and also used shoreline blow-downs for cover. This fish disappeared on December 12, 2005, and was never relocated. During the days prior to its disappearance, an angler was frequently observed fishing in a blow-down where this fish had been located previously. It is very likely that this fish was harvested by that angler.

Fish #3 (1,135g) was collected from a blow-down on the west side of Antioch Branch and moved from there only once during the study period (Figure 22). It was found on the opposite side of Antioch Branch on December 15, 2005, in an open-water

brush-pile often frequented by Fish #4. It had moved back to its original location by December 21, 2005, and remained there for the duration of the study period.

Fish #4 (2,724g) moved almost constantly and had a very large home range (Figure 23). Its most notable movement was a five mile migration up Catoma Creek during mid-December; however, its migration there and back lasted less than 10 days. This fish's migration upstream coincided with stable weather, falling water levels, and a decrease in instream flow (Figures 18 and 19), which contradicts most anglers' belief that fish move upstream when water levels are rising. Following a rain event on December 15, 2005, Fish # 4 moved rapidly back into the impounded portion of the Catoma Creek where it was captured. This fish apparently spent more than 50% of its time in one of two locations. The first, and its original capture site, was a large stump just below the surface on the edge of the old creek channel. The second area was a cluster of submerged blow-downs on the eastern shore of Antioch Branch. This fish was found in these locations 24% and 29% of the time, respectively. It appeared that Fish # 4 moved between these two locations frequently.

Interestingly, although Fish #1 and Fish #2, and Fish #3 and Fish #4 shared many of the same blow-downs, none were found using the same blow-down simultaneously. All four fish were found using woody cover during the entire study period. Fish movement seemed to be entirely random with no correlation to any of the environmental or hydrologic factors measured.

Acknowledgements

The Alabama Division of Wildlife and Freshwater Fisheries would like to thank Trip Weldon, Tournament Director, ESPN/BASS; Steve Bowman, Assistant Producer,

JM Productions; Jeryl Jones, External Relations Manager, Arkansas Game and Fish Foundation; and Sam Russell, Vice President, Prattville Bass Anglers for their assistance with collecting, implanting, and tracking fish during the largemouth bass tracking study. Sonic transmitters and the receiver were provided by JM Productions.

Conclusions

1. The reservoir should be sampled in 3 to 4 years according to reservoir program guidelines.
2. All subsequent electrofishing samples should include a stratified sampling design in order to evaluate the spotted bass population.
3. Use of moderate size limits (such as 14-inches) has strong support by bass anglers and would theoretically improve the bass fishery. However, given the current harvest rates, restrictive size limits would have negligible effects on the fishery.
4. Hybrid striped bass stockings should continue at the rate of 4 per acre annually.
5. Consideration should be given to discontinuing striped bass stocking due to poor survival (McHugh et al. 1997).

Literature Cited

- Abernethy, D. L., J. C. Greene, T. R. Powell, and R. M. McVay. 2005. Mitchell Reservoir 2004 management report. Alabama Department of Conservation and Natural Resources. Montgomery, Ala.
- Alabama Reservoir Management Manual. 1999. Alabama Department of Conservation and Natural Resources. Montgomery, Ala.
- Jenkins, R. M. 1967. The influence of some environmental factors on the standing crop and harvest of fishes in U. S. reservoirs. Pages 298 – 321 *in* Reservoir fishery resource symposium. American Fisheries Society, Southern Division, Bethesda, Maryland.
- Maceina, M. J., D. L. Abernethy, A. D. Martin, and J. W. Slipke. 2002. Crappie stock assessment and reproductive analysis in Alabama reservoirs. Federal Aid to Fish Restoration, Job Performance Final Report, Project F-40, Study 39.
- Maceina, M. J., and M. R. Stimpert. 1998. Relations between reservoir hydrology and crappie recruitment in Alabama. North American Journal of Fisheries Management 18:104-113.
- McHugh, J. J., J. B. Jernigan, and T. R. Powell. 1999. Jones Bluff Reservoir management report. Alabama Department of Conservation and Natural Resources. Montgomery, Ala.
- McHugh, J. J., J. B. Jernigan, and T. R. Powell. 1997. Jones Bluff Reservoir management report. Alabama Department of Conservation and Natural Resources. Montgomery, Ala.
- Rider, S. J., J. J. McHugh, and T. R. Powell. 2002. Jones Bluff Reservoir management report. Alabama Department of Conservation and Natural Resources. Montgomery, Ala.
- Ryder, R. A. 1965. A method for estimating the potential fish production of north-temperate lakes. Transactions of the American Fisheries Society 94: 214 – 218.

APPENDIX A

TABLES AND FIGURES

TABLE 1. JONES BLUFF RESERVOIR MORPHOMETRIC, PHYSICAL AND CHEMICAL CHARACTERISTICS.

Surface Area	12,510	acres
Drainage Area	3,250	sq. mi.
Full Pool Elevation	125	feet-msl
Mean Annual Fluctuation	2	feet
Shoreline Distance	368	miles
Shoreline Development Index	23.5	
Mean Depth	27.8	feet
Maximum Depth	60.0	feet
Outlet Depth	0-43	feet
Thermocline Depth	10	feet
Storage Ratio	55.2	
Total Dissolved Solids	37.3	mg/L
Morphoedaphic Index	1.3	TDS/mean depth (ft) (Ryder 1965)
Growing Season	235	frost free days (Jenkins 1967)
Year Constructed	1975	

TABLE 2. FISH STOCKED IN JONES BLUFF RESERVOIR, 1980-2006.

Species	Year	No/Acre	Size (in)	Total
FL Largemouth Bass	1981	1.0	1-2	12,000
	1986	2.0	1	25,000
	1988	2.0	1-3	25,014
	1990	3.3	1-3	41,720
	1991	2.0	1-2	25,356
	1992	2.0	1-2	25,428
	1993	2.0	1-2	25,025
	1994	2.0	1-2	25,000
Bluegill	1990	3.7	2-4	46,000
Redear	1990	0.8	2-4	10,200
Channel Catfish	1990	2.7	3-4	33,330
Hybrid Striped Bass	1984	4.8	2-3	60,300
	1985	4.8	1-2	60,000
	1986	4.8	1-2	59,600
	1988	2.5	1-2	31,300
	1989	3.9	1-2	48,300
	1990	2.0	1-2	25,000
	1991	2.0	1-2	25,530
	1992	2.0	1-2	25,060
	1993	2.0	1-2	25,000
	1994	4.0	1-2	50,302
	1995	4.2	1-2	52,110
	1996	5.8	1-2	72,963
	1997	4.0	1-2	50,034
	1998	4.0	1-2	50,165
	1999	4.0	1-2	50,092
	2000	4.2	1-2	51,931
	2001	4.0	1-2	50,560
	2002	4.0	1-2	50,000
	2003	4.0	1-2	50,284
	2004	4.0	2	50,000
	2005	4.0	1	50,104
	2006	4.1	1	51,200
Striped Bass	1980	3.3	1-2	41,000
	1981	9.7	1-2	120,900
	1982	4.7	1-2	58,560
	1983	9.7	1-2	120,840
	1984	4.8	1-2	60,000
	1985	4.8	1-2	60,000
	1986	4.8	1-2	60,000
	1988	2.4	1-2	29,900
	1989	3.8	1-2	48,100
	1990	4.1	1-2	51,000
	1991	4.0	1-2	50,043
	1992	4.0	1-2	50,000
	1993	10.1	1-2	125,867
	1994	4.0	1-2	50,143
	1995	4.0	1-2	50,000
	1996	6.4	1-2	80,440
	1997	4.0	1-2	50,065
	1998	4.0	1-2	50,236
	1999	4.3	1-2	54,000
	2000	4.0	1-2	50,195
	2001	4.0	1-2	50,000
	2002	0.2	1-2	2,000
	2003	4.0	1-2	50,327
	2004	4.0	2	50,000
	2005	4.0	1	50,067
	2006	3.7	1	46,760

TABLE 3. NUMBER OF TARGET SPECIES COLLECTED FROM EACH ELECTROFISHING SITE ON JONES BLUFF RESERVOIR DURING SPRING, 2006. MISSING DATA INDICATES THAT SPECIES WAS NOT TARGETED.

	SITE 1		SITE 2		SITE 3		SITE 4		SITE 5		SITE 6		SITE 7		SITE 8		SITE 9		SITE 10		SITE 11		SITE 12		SITE 13		SITE 14		TOTAL	
SPECIES	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE	No.	CPE		
Bluegill	18	36	4	8	12	24					38	76																	72	
Largemouth Bass	1	2	2	4	0	0	12	24	35	70	4	8	14	28	25	50	2	4	30	60	4	8	16	32	5	10	1	2		151
Spotted Bass	5	10	0	0	14	28	2	4	1	2	10	20	18	36	1	2	29	58	5	10	16	32	4	8	1	2	13	26	119	
Gizzard Shad	16	32	33	66	1	2	25	50	6	12	1	2	7	14	19	71													108	
Threadfin Shad	0	0	41	111	0	0	64	904																					105	

TABLE 4. NON-TARGET SPECIES OBSERVED DURING
ROUTINE SAMPLING ACTIVITIES IN JONES BLUFF
RESERVOIR DURING SPRING 2006.

NON-TARGET SPECIES OBSERVED	
Blacktail redhorse	<i>Moxostoma poecilurum</i>
Blacktail shiner	<i>Campostoma venusta</i>
Bowfin	<i>Amia calva</i>
Brook silverside	<i>Labidesthes sicculus</i>
Channel catfish	<i>Ictalurus punctatus</i>
Common carp	<i>Cyprinus carpio</i>
Flathead catfish	<i>Pylodictis olivaris</i>
Freshwater drum	<i>Aplodinotus grunniens</i>
Green sunfish	<i>Lepomis cyanellus</i>
Longear sunfish	<i>Lepomis megalotis</i>
Redear sunfish	<i>Lepomis microlophus</i>
Smallmouth buffalo	<i>Ictiobus bubalus</i>
Spotted gar	<i>Lepisosteus oculatus</i>
Spotted sucker	<i>Minytrema melanops</i>
Warmouth	<i>Lepomis gulosus</i>

TABLE 5. RELATIVE STOCK DENSITY (RSD), CATCH PER EFFORT (CPE), AND RELATIVE WEIGHT (Wr) OF BLUEGILL, GIZZARD SHAD, AND THREADFIN SHAD COLLECTED BY ELECTROFISHING FROM JONES BLUFF RESERVOIR FROM SPRING 1990 THROUGH SPRING 2006.

SPECIES	YEAR	TOTAL	SUBSTOCK			RSD _{S-Q}				RSD _{Q-P}				RSD _{P-M}				RSD _{M-T}				RSD-T				TOTAL	
		EFFORT ^a	NO.	CPE	SSR ^b	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE
Bluegill	1990 ^c	2.00				89	88.8	88		12	12.0	12														101	101
	1993 ^c	2.50				86	39.6	86	82	14	6.5	14	85													100	46.1
	1996 ^c	2.00				95	57.0	95	83	5	3.0	5	85													100	60.0
	1999 ^c	1.50				97	69.3	92	79	9	6.4	8	81													106	75.8
	2002 ^c	1.50				90	113	86	81	15	18.8	14	78													105	131
	2006 ^d	2.00				67	33.5	93	83	5	2.5	7	84													72	36.0
	LAKE AVERAGE						66.8	90	82		8.2	10	83														75.0
Gizzard Shad	1990 ^c	2.00				101	76.5	99		1	0.8	1														102	77.3
	1993 ^c	3.00	143	65.3	286	50	22.8	100	87																	193	88.1
	1996 ^c	5.00	165	33.0	220	65	13.0	87	82	10	2.0	13	81													240	48.0
	1999 ^c	3.00	164	61.5	150	109	40.9	100	88																	273	102
	2002 ^c	2.50	40	16.0	32	118	47.2	95	88	6	2.4	5	94													164	65.6
	2006 ^d	3.77	16	4.2	17	85	22.5	91	88	8	2.1	9	95													109	28.9
	LAKE AVERAGE			36.0	141		37.2	95	87		1.8	7	90														68.4
Threadfin Shad	1990 ^c	2.00				37	33.3	37		63	56.7	63														100	90.0
	1993 ^c	3.00				27	11.8	24		87	38.0	76														114	49.8
	1996 ^c	5.00				2	0.4	2		96	20.3	98														98	20.7
	1999 ^c	2.50				77	48.6	63		46	29.1	37														123	77.7
	2002 ^c	1.50				6	7.5	6		103	129	94														109	136
	2006 ^d	1.31				3	2.3	3		102	77.9	97														105	80.2
	LAKE AVERAGE						17.3	22			58.5	78															75.8

^aEFFORT IS IN HOURS

^bSSR DENOTES SUBSTOCK RATIO (THE NUMBER OF SUBSTOCK SIZE FISH PER 100 FISH STOCK SIZE AND LARGER).

^cALL SAMPLING WAS CONDUCTED IN BACKWATER AREAS.

^dSAMPLING WAS CONDUCTED IN BACKWATER AND RIVERINE AREAS.

TABLE 6. RELATIVE STOCK DENSITY (RSD), CATCH PER EFFORT (CPE), AND RELATIVE WEIGHT (Wr) OF LARGEMOUTH BASS COLLECTED USING ELECTROFISHING FROM JONES BLUFF RESERVOIR FROM SPRING 1989 THROUGH SPRING 2006.

YEAR	TOTAL	SUBSTOCK			RSD _{S-Q}				RSD _{Q-P}				RSD _{P-M}				RSD _{M-T}				RSD-T				TOTAL	
	EFFORT ^a	NO.	CPE	SSR ^b	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE
1989 ^c	4.5	32	7.1	28	52	11.6	46	86	42	9.3	37	88	16	3.6	14	95	3	0.7	3	101					145	32.2
1990 ^c	2.0	12	8.3	12	50	34.5	50	87	22	15.2	22	90	23	15.9	23	91	5	3.4	5	90					112	77.2
1993 ^c	3.0	60	22.5	43	65	24.3	46	90	43	16.1	31	94	32	12.0	23	97									200	74.9
1996 ^c	2.0	57	28.5	46	72	36.0	58	87	24	12.0	19	97	26	13.0	21	99	3	1.5	2	90					182	91.0
1999 ^c	2.0	21	14.5	19	51	35.3	47	90	36	24.9	33	97	19	13.1	17	92	3	2.0	3	90					130	90.0
2002 ^c	3.5	66	18.8	55	43	12.2	36	84	39	11.1	32	86	32	9.1	26	87	7	2.0	6	89					187	53.4
2006 ^d	3.0	19	6.3	19	45	15.0	45	85	19	6.3	19	86	31	10.3	31	87	6	2.0	6	84					120	40.0
LAKE AVERAGE		15.1	31.7		24.1	47	87		13.6	28	91		11.0	22	93		1.9	4	91						65.5	

^aEFFORT IS IN HOURS

^bSSR DENOTES SUBSTOCK RATIO (THE NUMBER OF SUBSTOCK SIZE FISH PER 100 FISH STOCK SIZE AND LARGER).

^cALL SAMPLING WAS CONDUCTED IN BACKWATER AREAS.

^dSAMPLING DATA IS FOR FISH COLLECTED FROM BACKWATER AREAS ONLY.

TABLE 7. RELATIVE STOCK DENSITY (RSD), CATCH PER EFFORT (CPE), AND RELATIVE WEIGHT (W_r) OF SPOTTED BASS COLLECTED USING ELECTROFISHING FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

YEAR	TOTAL	SUBSTOCK			RSD _{S-Q}				RSD _{Q-P}				RSD _{P-M}				RSD _{M-T}				RSD-T				TOTAL	
	EFFORT ^a	NO.	CPE	SSR ^b	NO.	CPE	PCT.	W _r	NO.	CPE	PCT.	W _r	NO.	CPE	PCT.	W _r	NO.	CPE	PCT.	W _r	NO.	CPE	PCT.	W _r	NO.	CPE
2006 ^c	4.0	24	6.0	29	35	8.8	43	87	23	5.8	28	89	9	2.3	11	94	15	3.8	18	98					106	26.5
LAKE AVERAGE		6.0	29		8.8	43	87		5.8	28	89		2.3	11	94		3.8	18	98						26.5	

^aEFFORT IS IN HOURS

^bSSR DENOTES SUBSTOCK RATIO (THE NUMBER OF SUBSTOCK SIZE FISH PER 100 FISH STOCK SIZE AND LARGER).

^cSAMPLING DATA IS FOR FISH COLLECTED FROM RIVERINE AREAS ONLY.

TABLE 8. RELATIVE STOCK DENSITY (RSD), CATCH PER EFFORT (CPE), AND RELATIVE WEIGHT (Wr) OF LARGEMOUTH BASS AND SPOTTED BASS COLLECTED USING ELECTROFISHING FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

SPECIES	HABITAT TYPE ^a	TOTAL	SUBSTOCK			RSD _{S-Q}				RSD _{Q-P}				RSD _{P-M}				RSD _{M-T}				TOTAL	
		EFFORT ^b	NO.	CPE	SSR ^c	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE	PCT.	Wr	NO.	CPE
LMB	R	4.0	16	4.0	107	8	2.0	53	82	3	0.8	20	82									31	7.8
LMB	BW	3.0	19	6.3	19	45	15.0	45	85	19	6.3	19	86	31	10.3	31	87	6	2.0	6	84	120	40.0
LMB	BOTH	7.0	35	5.0	30	53	7.6	46	85	22	3.1	19	85	35	5.0	30	86	6	0.9	5	84	151	21.6
SPB	R	4.0	24	6.0	29	35	8.8	43	87	23	5.8	28	89	9	2.3	11	94	15	3.8	18	98	106	26.5
SPB	BW	3.0	5	1.7	63	3	1.0	38	93	2	0.7	25	89	2	0.7	25	88	1	0.3	13	91	13	4.3
SPB	BOTH	7.0	29	4.1	32	38	5.4	42	87	25	3.6	28	89	11	1.6	12	93	16	2.3	18	98	119	17.0

^aHABITAT-TYPES INCLUDE RIVERINE (R) AND BACKWATER (BW) AREAS.

^bEFFORT IS IN HOURS

^cSSR DENOTES SUBSTOCK RATIO (THE NUMBER OF SUBSTOCK SIZE FISH PER 100 FISH STOCK SIZE AND LARGER).

TABLE 9. AGE COMPOSITION AND MEAN TOTAL LENGTH (mm) OF LARGEMOUTH BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING, 2006. TOTALS INCLUDE FISH COLLECTED FROM BOTH BACKWATER AND RIVERINE SAMPLE SITES.

Age	Year Class	Number		Percent		CPE		Mean TL		SE		TL Range	
		Total	Backwater	Total	Backwater	Total	Backwater	Total	Backwater	Total	Backwater	Total	Backwater
1	2005	29	16	19.2	13.3	4.1	5.3	146.5	144.4	6.5	10.2	87 - 211	87 - 192
2	2004	62	51	41.1	42.5	8.9	17.0	242.3	250.1	5.7	5.6	132 - 332	132 - 332
3	2003	18	13	11.9	10.8	2.6	4.3	336.5	331.1	11.4	9.8	265 - 464	281 - 402
4	2002	18	17	11.9	14.2	2.6	5.7	403.2	404.0	6.8	7.2	363 - 469	363 - 469
5	2001	8	8	5.3	6.7	1.1	2.7	440.9	440.9	13.6	13.6	386 - 501	386 - 501
6	2000	13	12	8.6	10.0	1.9	4.0	491.2	491.1	11.7	12.7	429 - 552	429 - 552
7	1999	1	1	0.7	0.8	0.1	0.3	466.0	466.0				
8	1998	1	1	0.7	0.8	0.1	0.3	508.0	508.0				
9	1997	1	1	0.7	0.8	0.1	0.3	563.0	563.0				
Total		151	120	100.0	100.0	21.6	40.0						

TABLE 10. AGE COMPOSITION AND MEAN TOTAL LENGTH (mm) OF SPOTTED BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING, 2006. TOTALS INCLUDE FISH COLLECTED FROM BOTH BACKWATER AND RIVERINE SAMPLE SITES.

Age	Year Class	Number		Percent		CPE		Mean TL		SE		TL Range	
		Total	Riverine	Total	Riverine	Total	Riverine	Total	Riverine	Total	Riverine	Total	Riverine
1	2005	25	20	21.0	18.9	3.6	5.0	110.6	108.8	4.6	5.5	79 - 150	79 - 150
2	2004	42	38	35.3	35.8	6.0	9.5	230.5	228.1	5.6	5.9	157 - 297	157 - 297
3	2003	25	23	21.0	21.7	3.6	5.8	313.0	309.9	6.5	6.5	251 - 370	251 - 367
4	2002	10	9	8.4	8.5	1.4	2.3	386.8	390.9	9.9	10.0	342 - 431	342 - 431
5	2001	8	8	6.7	7.5	1.1	2.0	435.8	435.8	18.4	18.4	321 - 500	321 - 500
6	2000	5	5	4.2	4.7	0.7	1.3	472.6	472.6	7.7	7.7	447 - 491	447 - 491
7	1999	3	2	2.5	1.9	0.4	0.5	483.7	477.5	9.9	13.5	464 - 496	464 - 491
8	1998	1	1	0.8	0.9	0.1	0.3	509.0	509.0				
Total		119	106	100.0	100.0	17.0	26.5						

TABLE 11. FISHERY STATISTICS FOR JONES BLUFF RESERVOIR
ACCESS AREA CREEL SURVEY, MARCH THROUGH MAY 2005.

		No. anglers	Hours
Fishing for:	Bass	58	336.4
	Crappie	84	445.3
	Catfish	2	7.8
	Bluegill	2	8.7
	Anything	14	73.7
	TOTAL	160	871.7
Bass tournament:	Tournament	0	0.0
	Pre-fishing	0	0.0
Harvested:	Largemouth bass	0	
	Spotted bass	0	
	Black crappie	2	
	White crappie	3	
	Crappie (not viewed)	10	
Released:	Bass >12 inches	85	
	Bass <12 inches	52	
	Crappie >9 inches	99	
	Crappie <9 inches	102	
Catch and harvest:		CPH	HPH
	Bass ¹	0.38	0.00
	Bass ²	0.24	0.00
	Crappie ³	0.47	0.03
County origin:		No. parties	
	Autauga		47
	Elmore		15
	Montgomery		15
	Lowndes		8
	Dallas		5
	Chilton		2
Comments:		No. parties	
	Not catching fish		8
	Crappie still too deep		2
	Fix pier at Swift Creek		2
	Crappie with sores		1
	Water level issues		1
	Too much pollution		1

¹Includes only bass anglers and fish of all sizes.

²Includes only bass anglers and fish 12 inches and larger.

³Includes only crappie anglers and fish of all sizes.

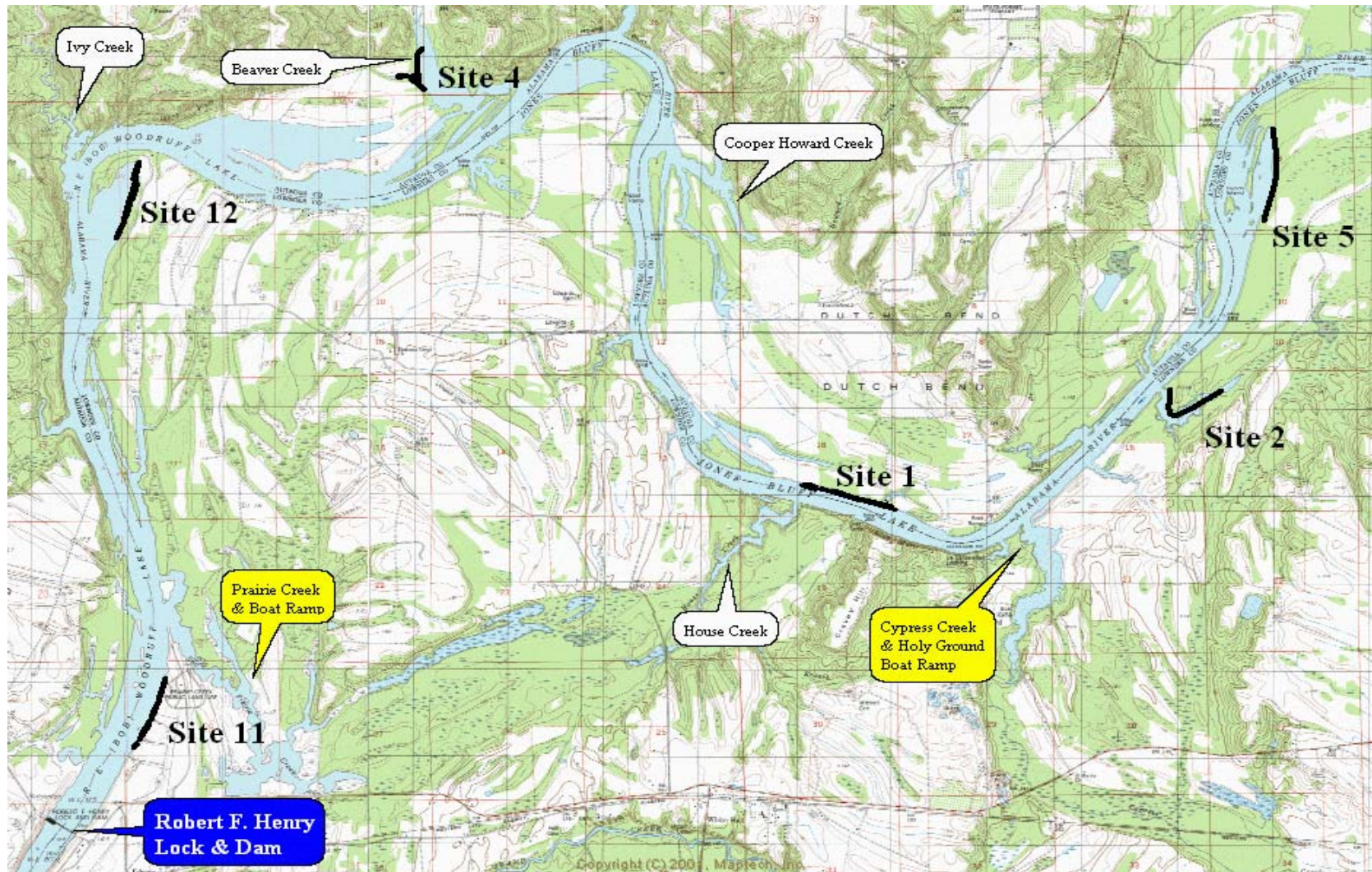


FIGURE 1. MAP OF JONES BLUFF RESERVOIR WITH RANDOM ELECTROFISHING SITES FROM SPRING, 2006.

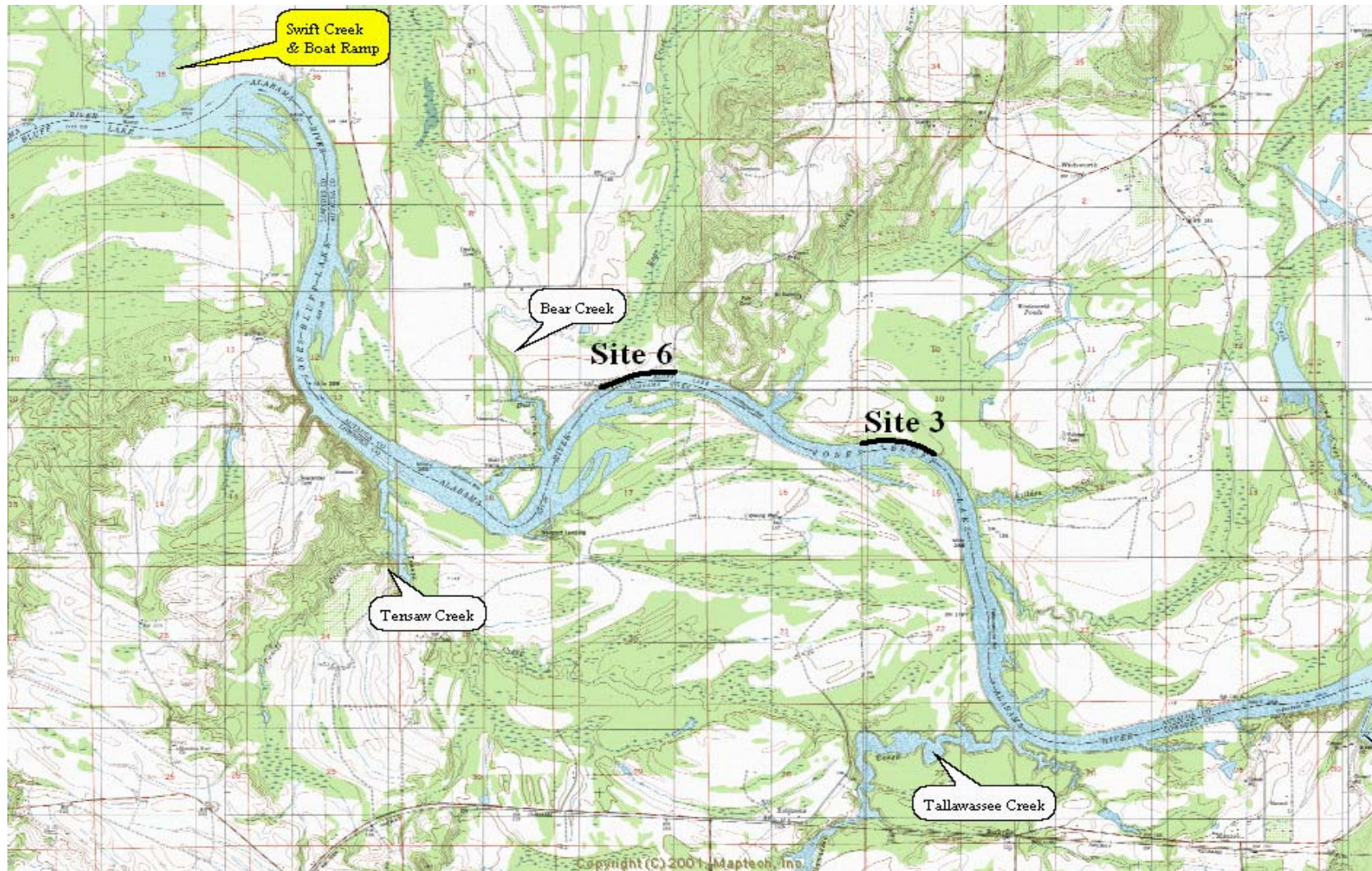


FIGURE 2. MAP OF JONES BLUFF RESERVOIR WITH RANDOM ELECTROFISHING SITES FROM SPRING, 2006.

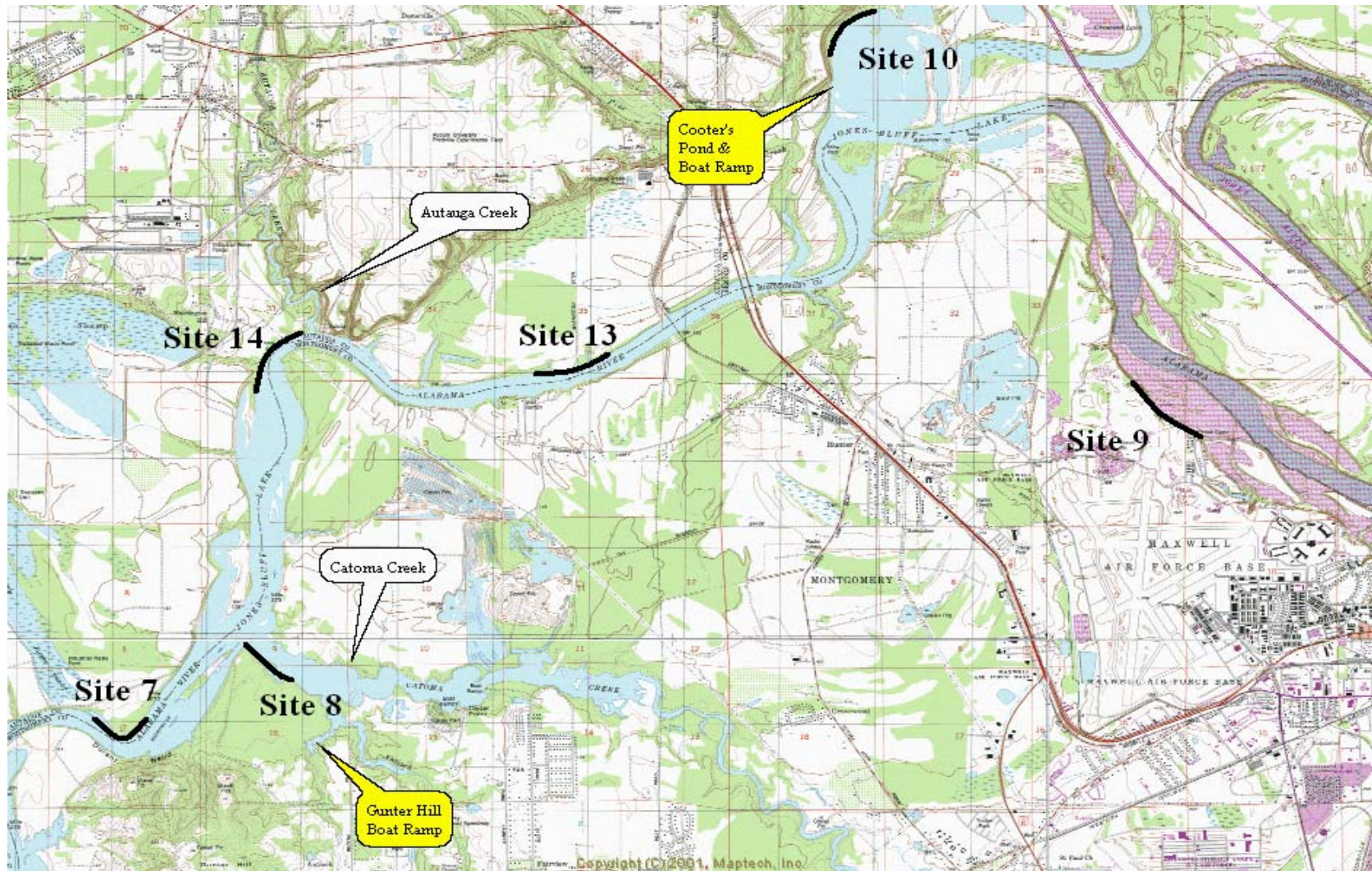


FIGURE 3. MAP OF JONES BLUFF RESERVOIR WITH RANDOM ELECTROFISHING SITES FOR SPRING, 2006.

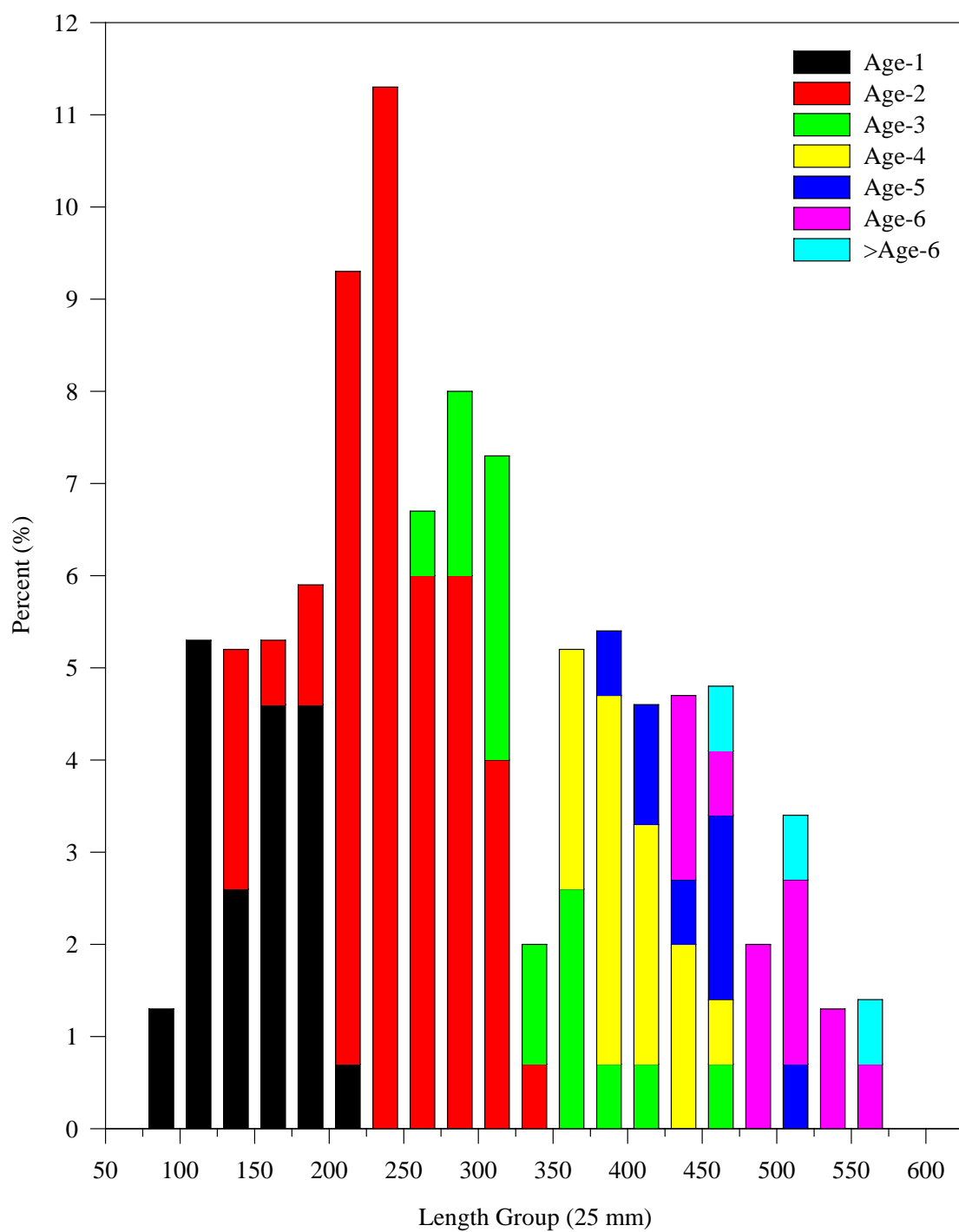


FIGURE 4. LENGTH-AT-AGE FREQUENCY OF LARGEMOUTH BASS (N=151) TAKEN FROM JONES BLUFF RESERVOIR, SPRING 2006.

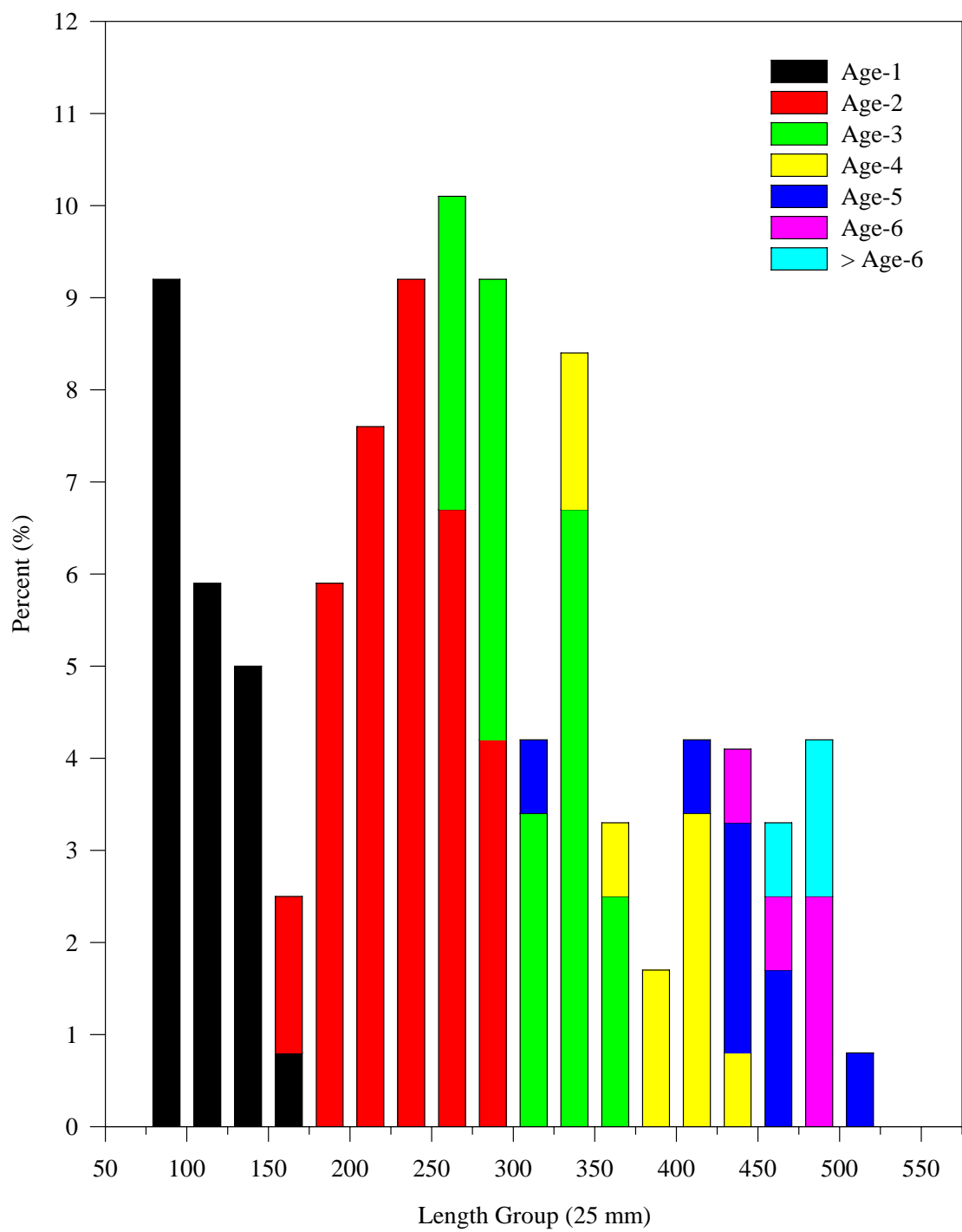


FIGURE 5. LENGTH-AT-AGE FREQUENCY OF SPOTTED BASS (N=119) TAKEN FROM JONES BLUFF RESERVOIR, SPRING 2006.

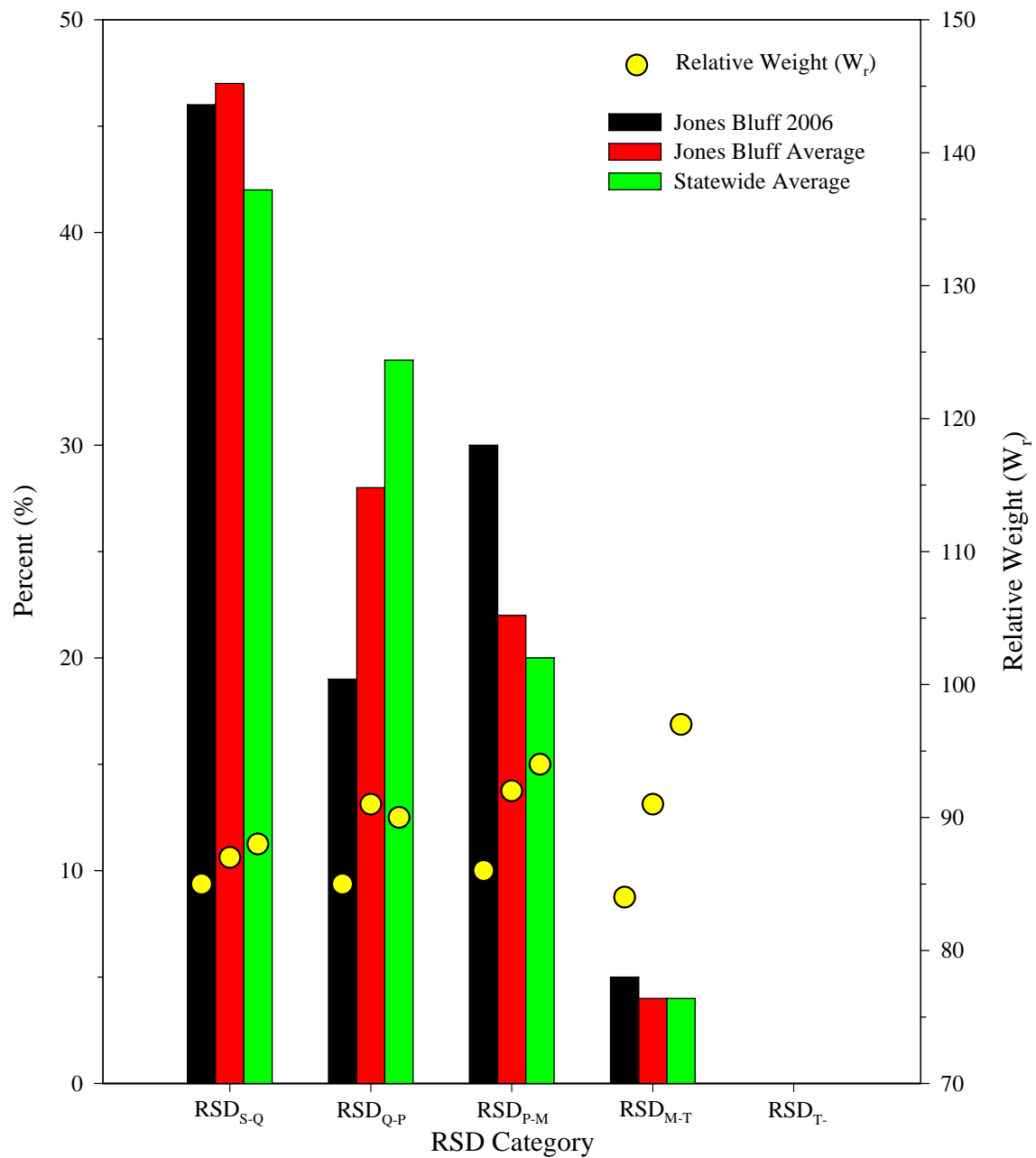


FIGURE 6. RELATIVE STOCK DENSITY (RSD) AND MEAN RELATIVE WEIGHT (W_r) OF LARGEMOUTH BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING, 2006.

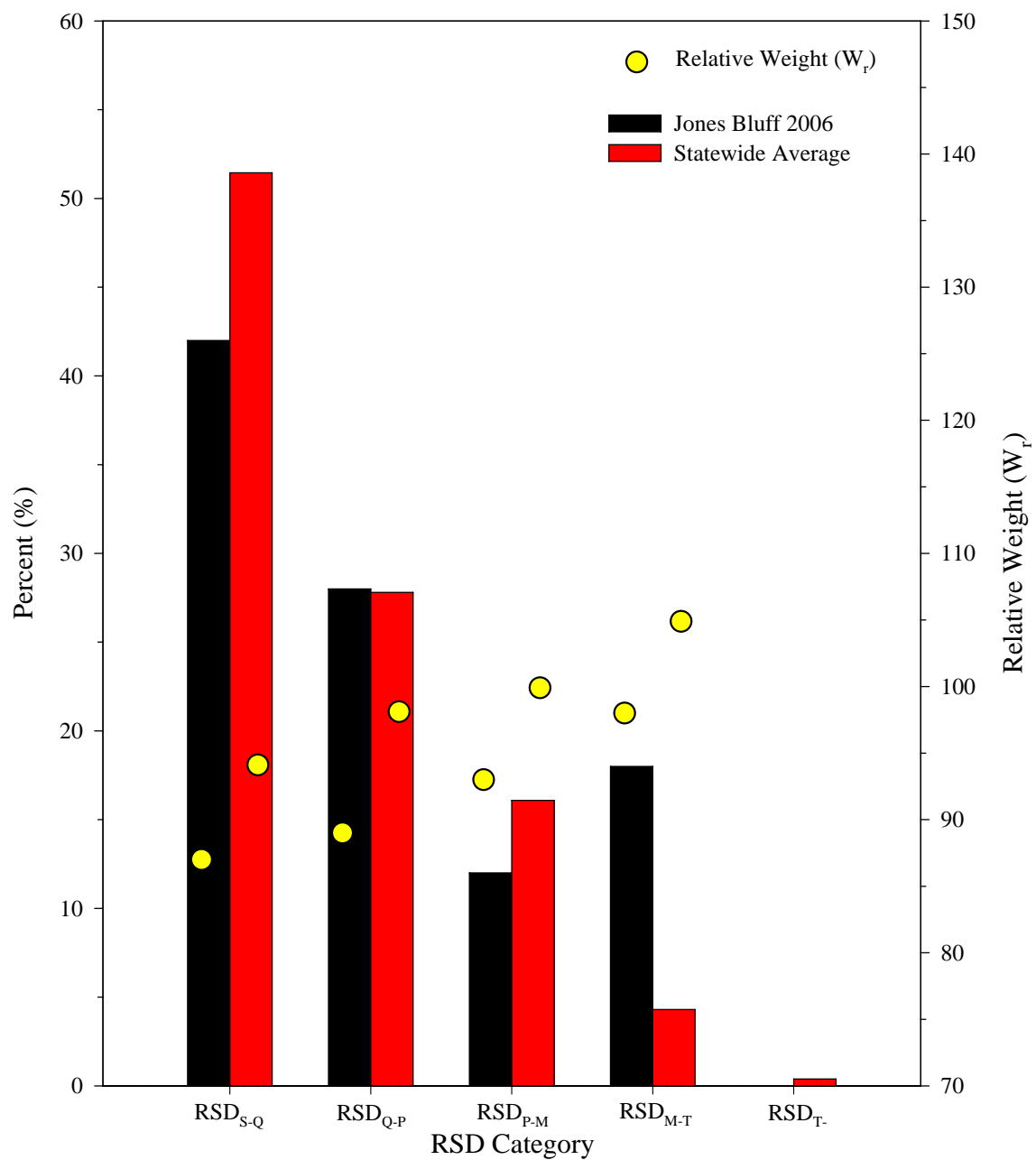


FIGURE 7. RELATIVE STOCK DENSITY (RSD) AND MEAN RELATIVE WEIGHT (W_r) OF SPOTTED BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING, 2006.

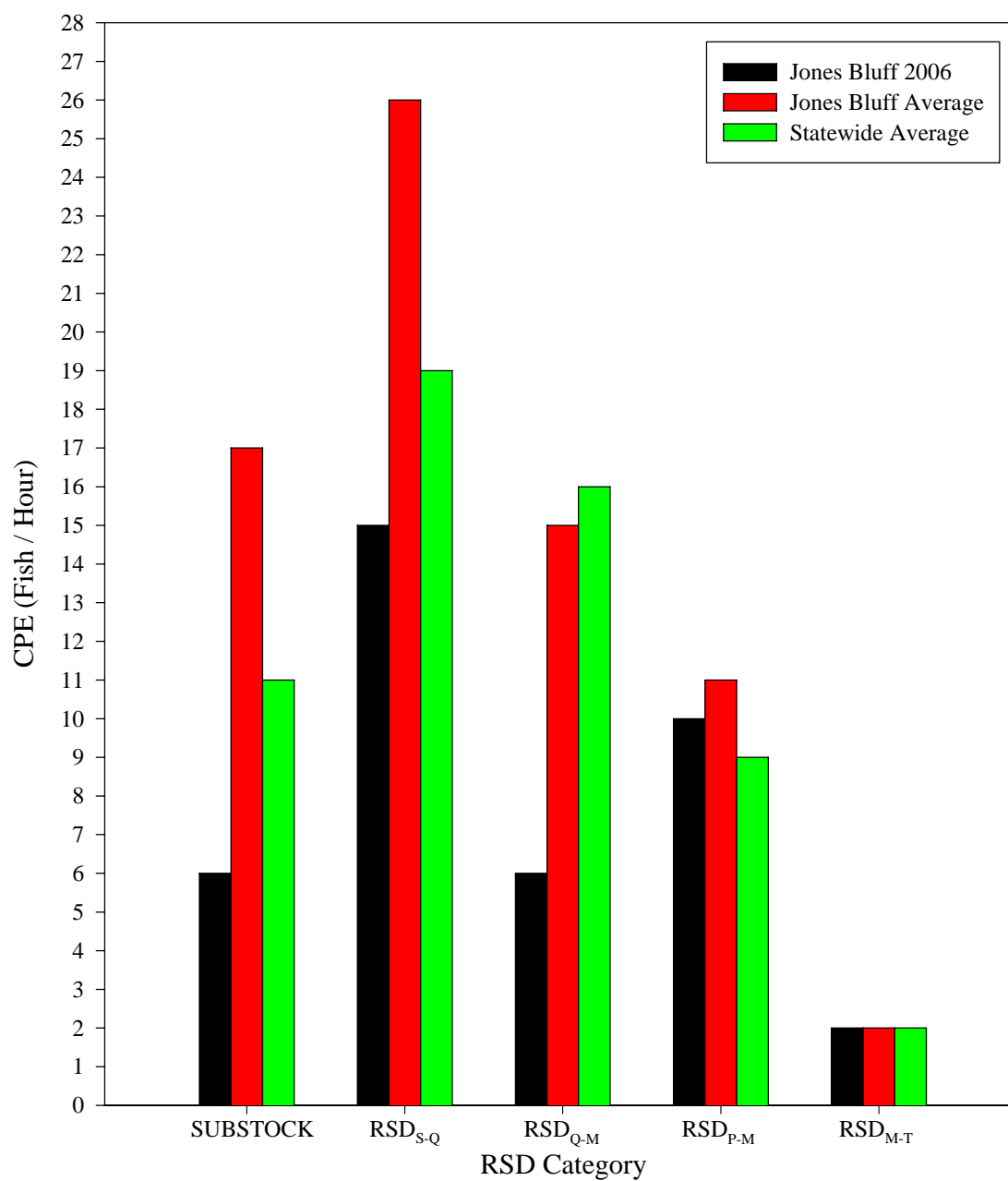
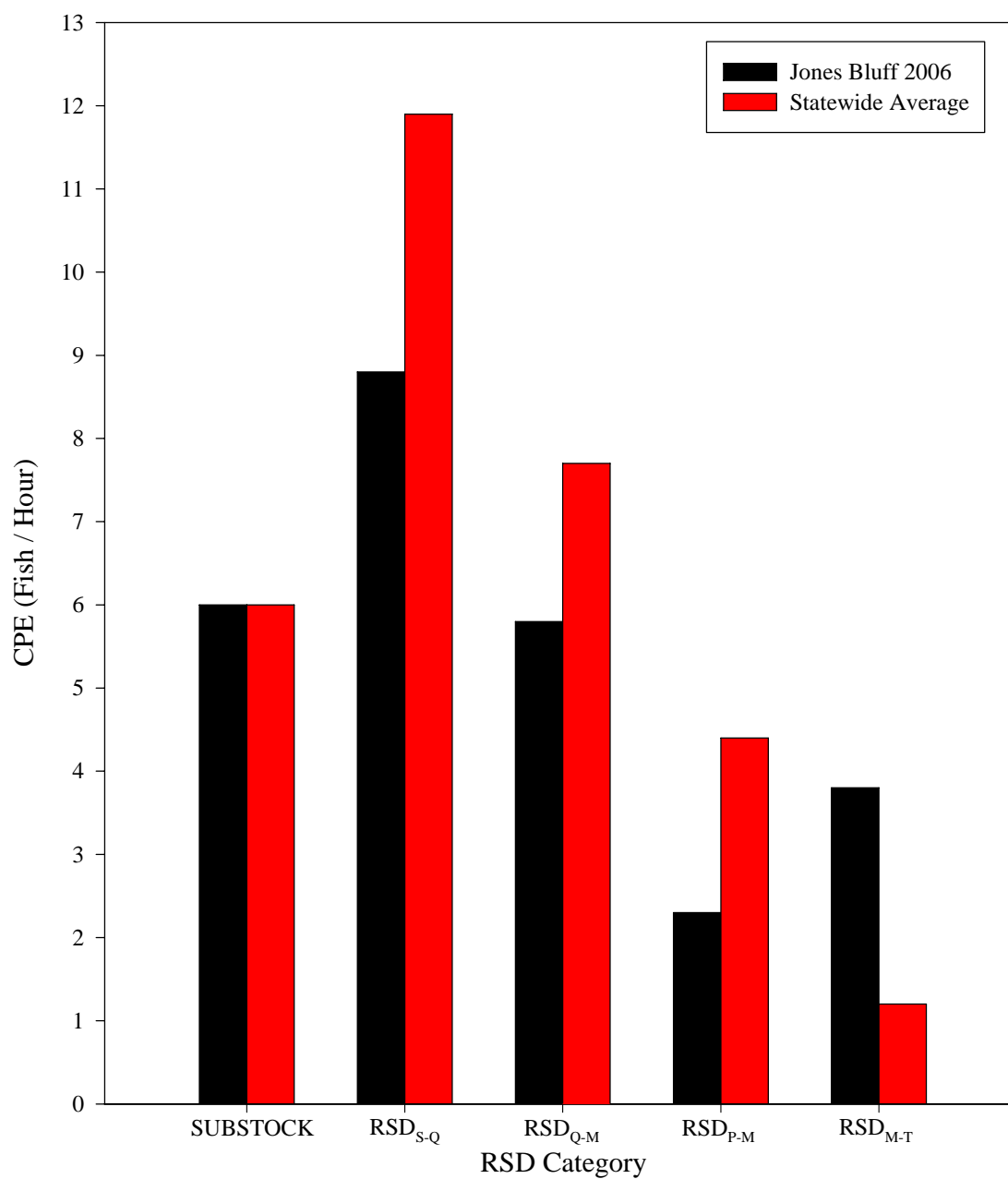


FIGURE 8. CATCH-PER-EFFORT (CPE) OF LARGEMOUTH BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING, 2006. TO REMAIN CONSISTENT WITH PREVIOUS SAMPLING EFFORTS, THE 2006 DATA INCLUDES ONLY THOSE FISH COLLECTED FROM BACKWATER AREAS.



^aIncludes only one year of data.

FIGURE 9. CATCH-PER-EFFORT (CPE) OF SPOTTED BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING, 2006. THE 2006 DATA INCLUDES ONLY THOSE FISH COLLECTED FROM RIVERINE AREAS.

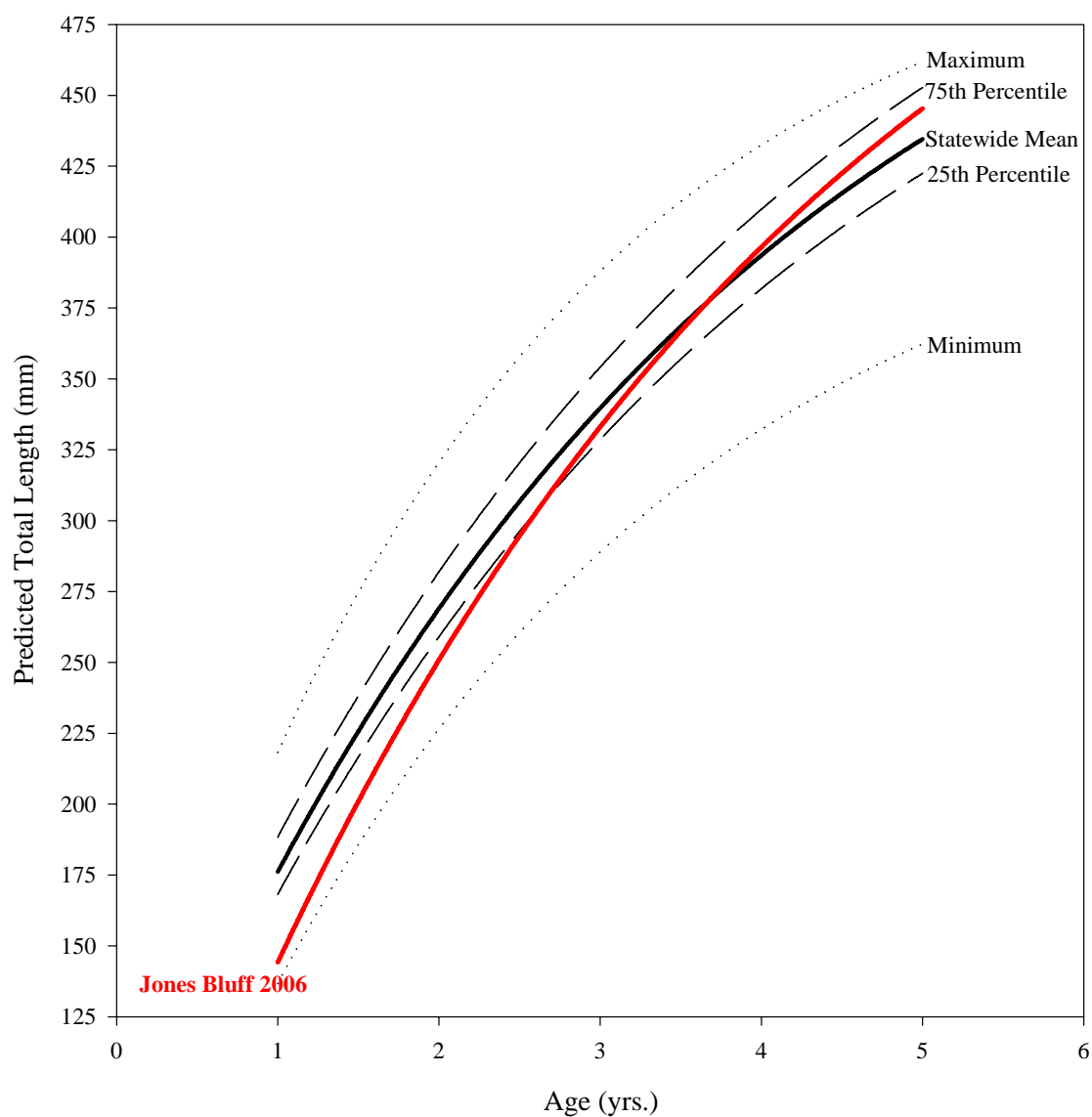


FIGURE 10. TOTAL LENGTHS-AT-AGE FOR LARGEMOUTH BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING 2006 AND THE STATEWIDE MAXIMUM, 75th PERCENTILE, MEAN, 25th PERCENTILE, AND MINIMUM FOR LARGEMOUTH BASS.

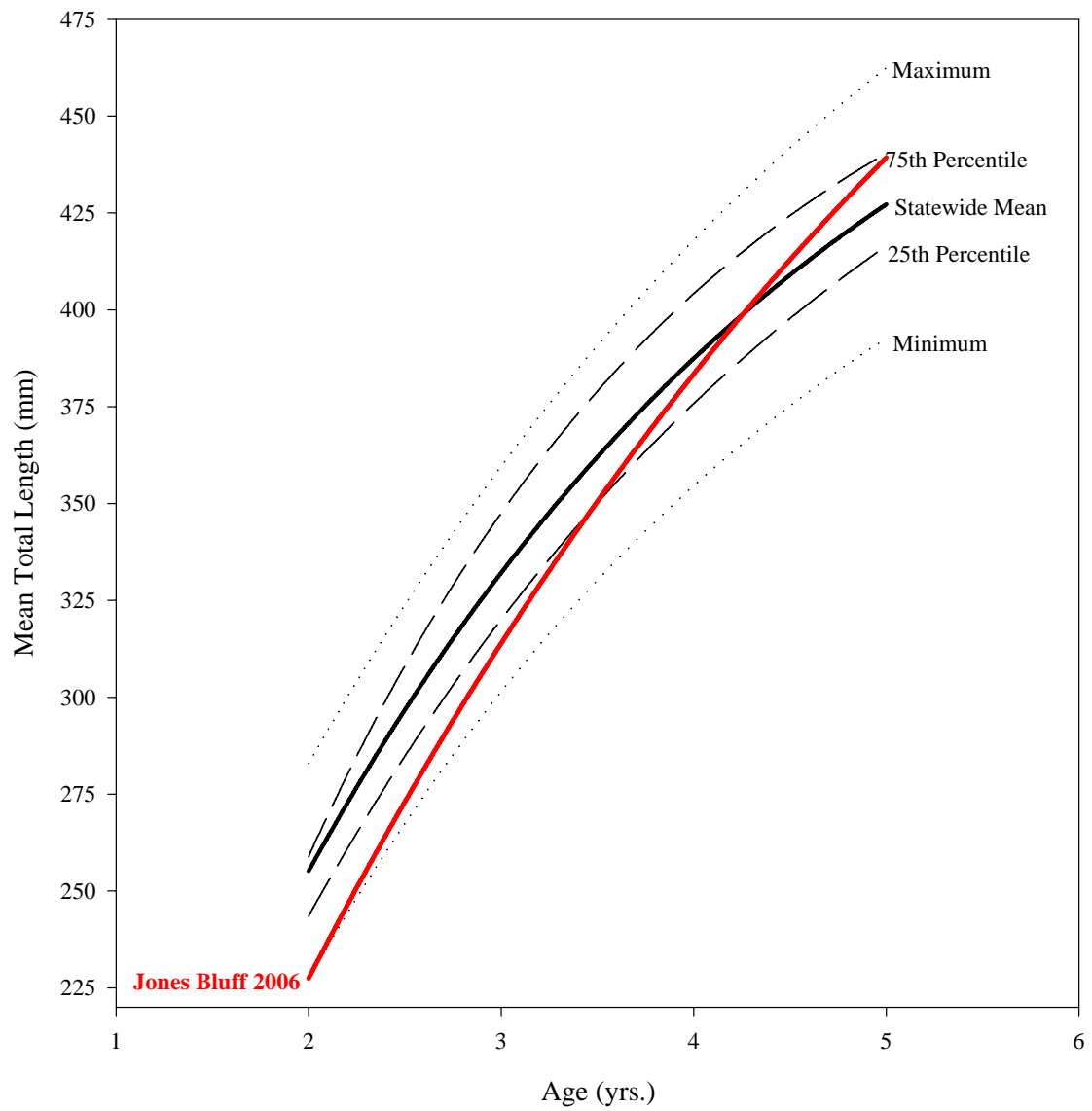


FIGURE 11. TOTAL LENGTHS-AT-AGE FOR SPOTTED BASS COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING 2006 AND THE STATEWIDE MAXIMUM, 75th PERCENTILE, MEAN, 25th PERCENTILE, AND MINIMUM FOR SPOTTED BASS.

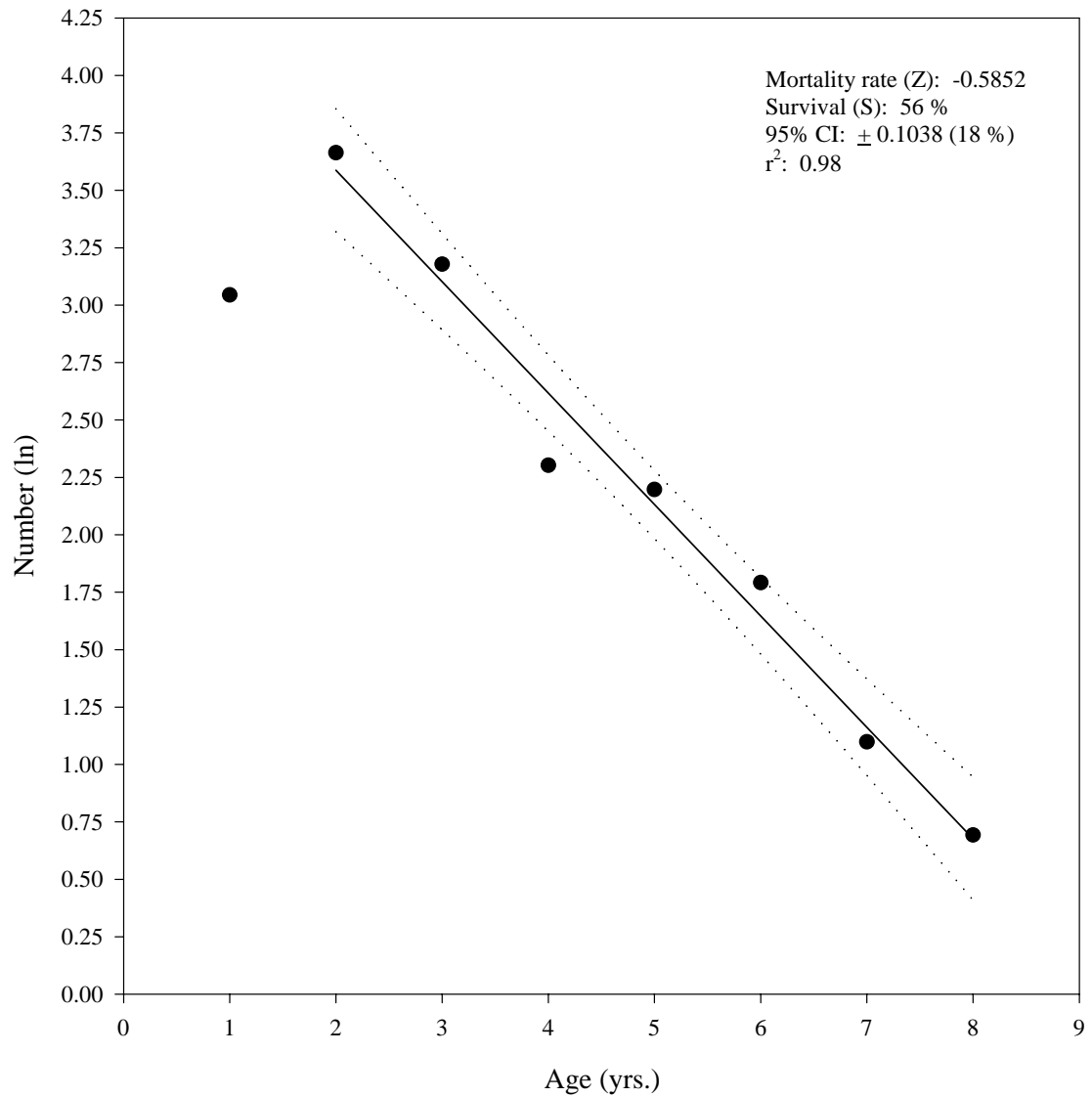


FIGURE 12. CATCH CURVE AND ESTIMATED TOTAL MORTALITY RATE FOR SPOTTED BASS AGE-2 THROUGH AGE-8, COLLECTED BY ELECTROFISHING FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

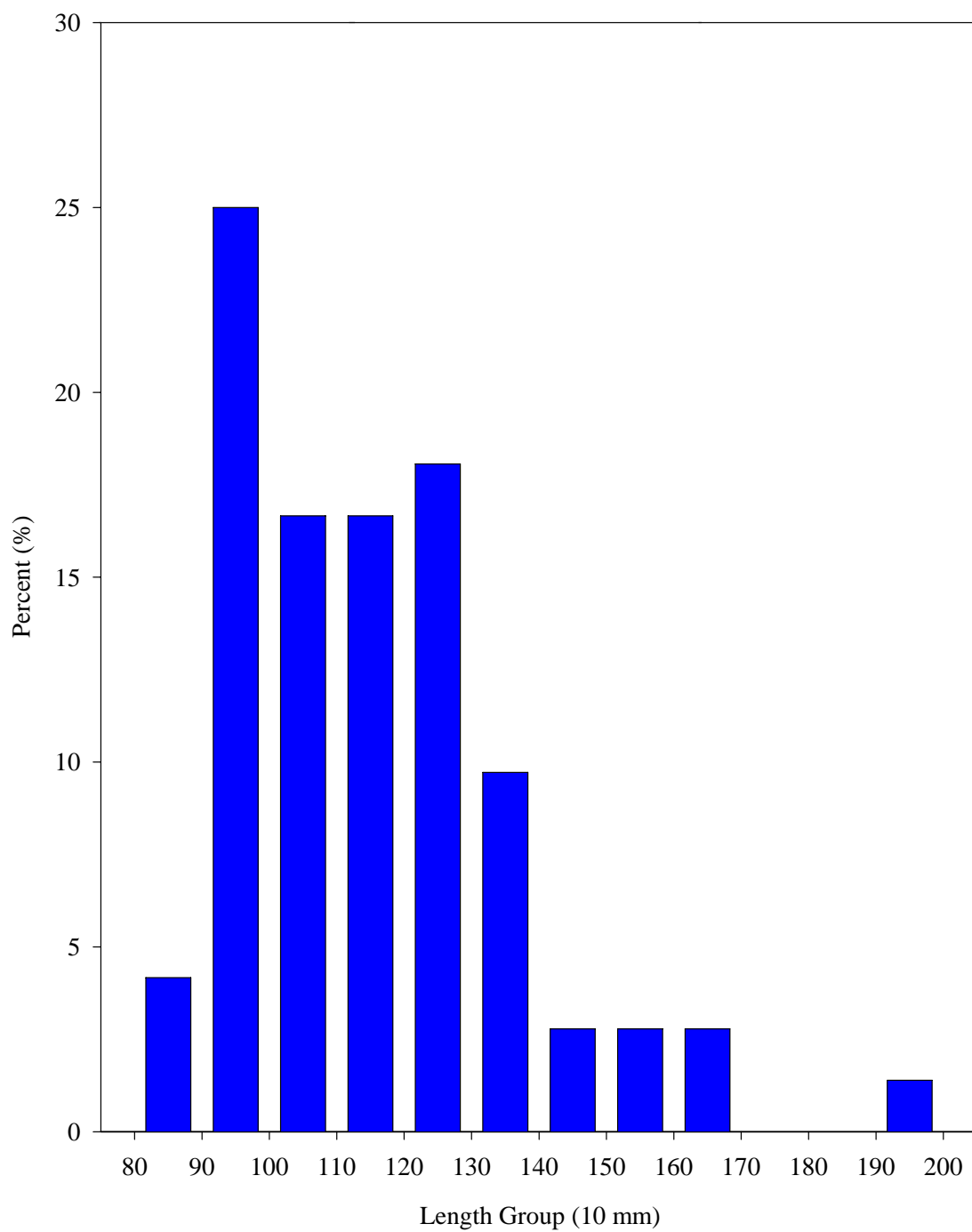


FIGURE 13. LENGTH FREQUENCY HISTOGRAM FOR BLUEGILL (N=72) COLLECTED BY ELECTROFISHING FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

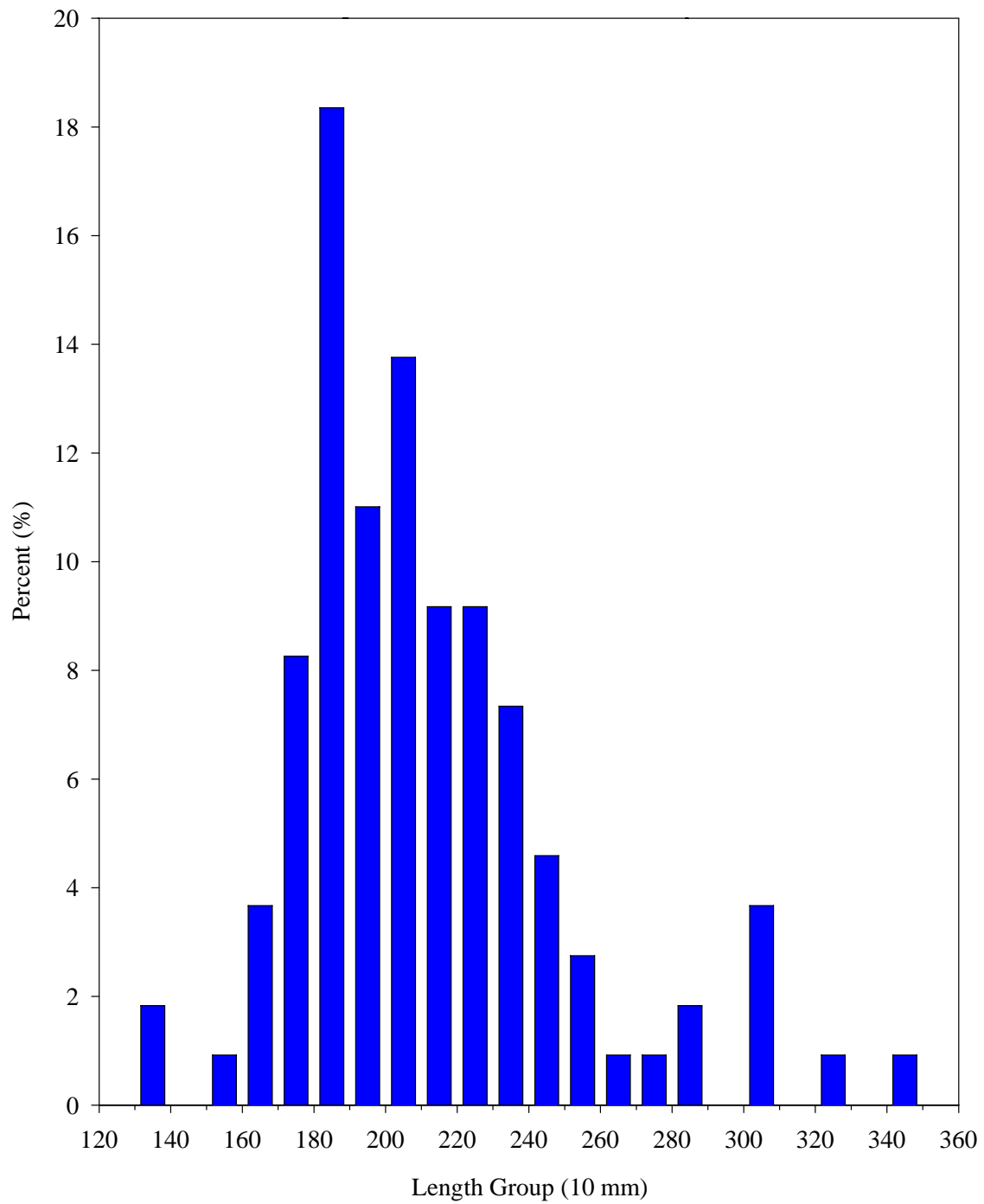


FIGURE 14. LENGTH FREQUENCY HISTOGRAM FOR GIZZARD SHAD (N=109) COLLECTED BY ELECTROFISHING FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

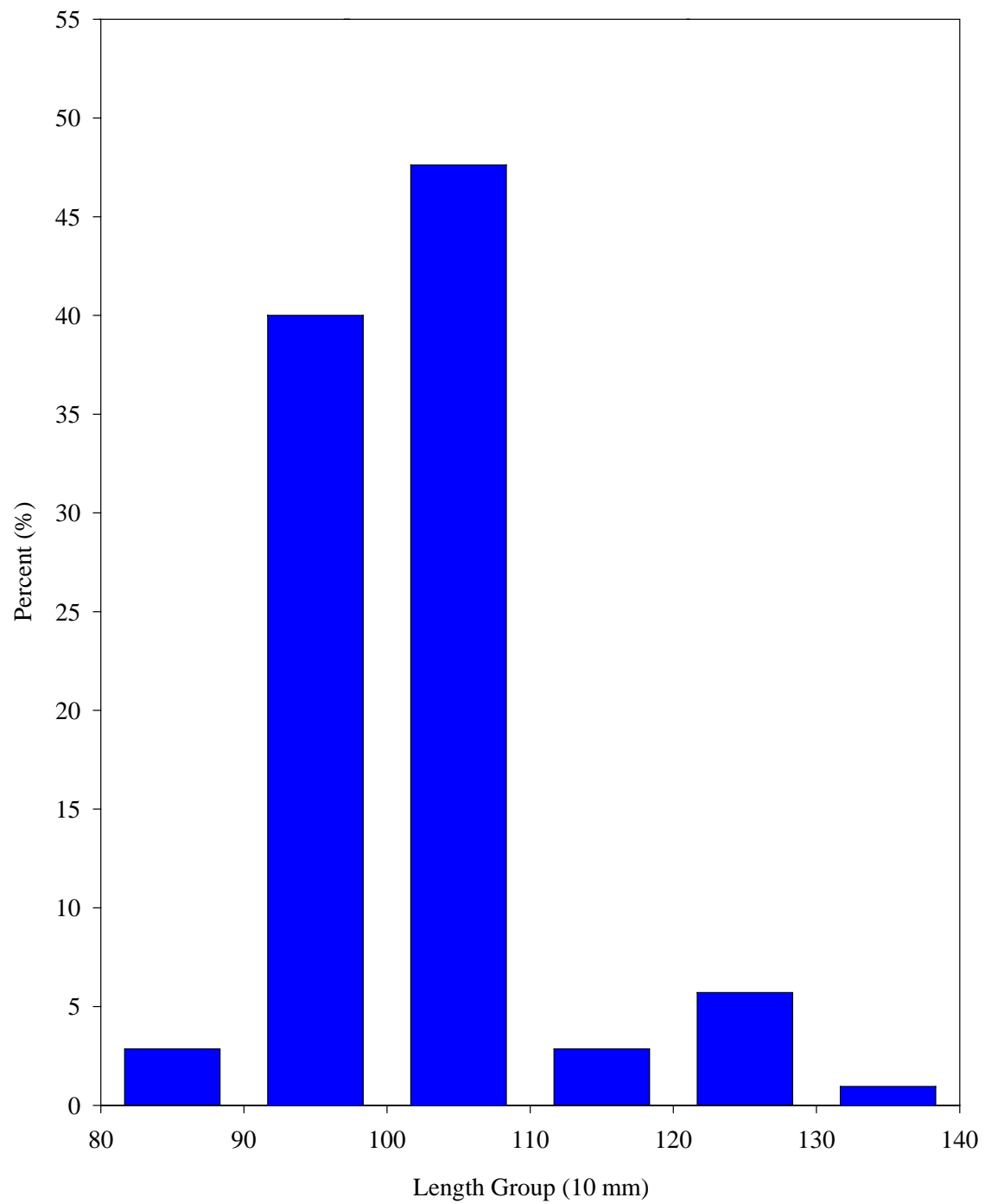


FIGURE 15. LENGTH FREQUENCY HISTOGRAM FOR THREADFIN SHAD (N=105) COLLECTED BY ELECTROFISHING FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

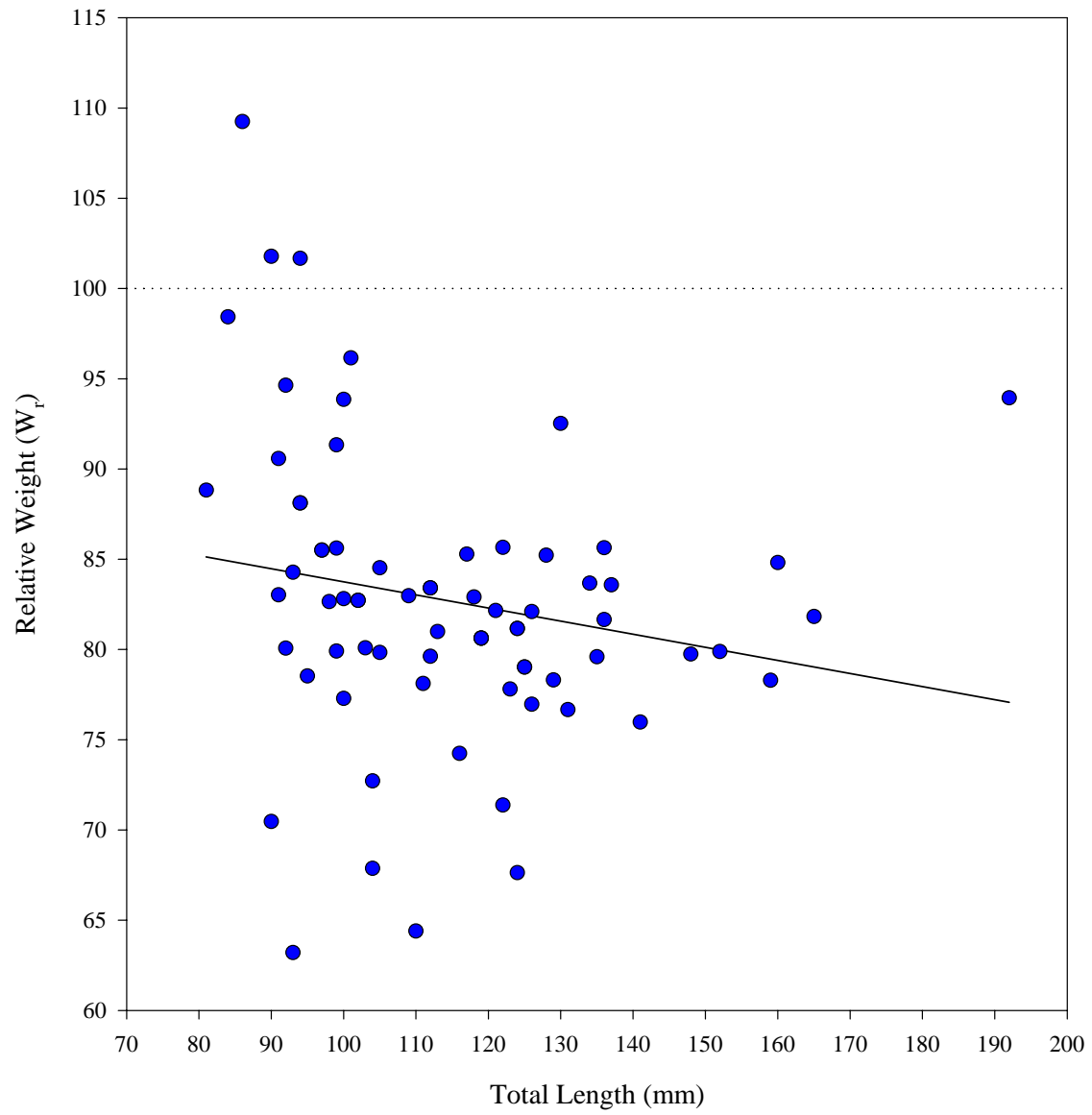


FIGURE 16. RELATIVE WEIGHT OF STOCK-SIZED BLUEGILL (N=72) COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

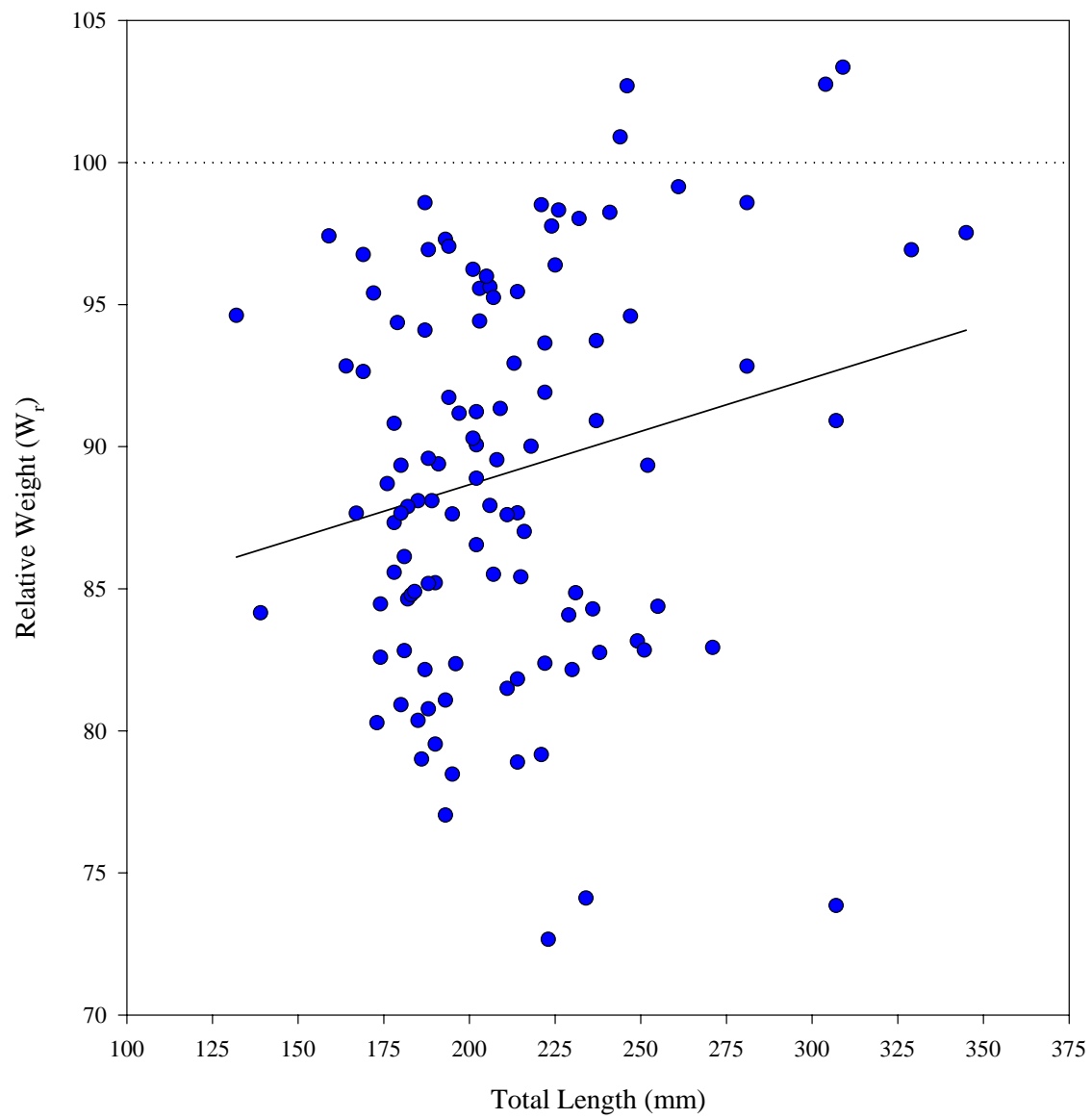


FIGURE 17. RELATIVE WEIGHT OF STOCK-SIZED GIZZARD SHAD (N=109) COLLECTED FROM JONES BLUFF RESERVOIR DURING SPRING 2006.

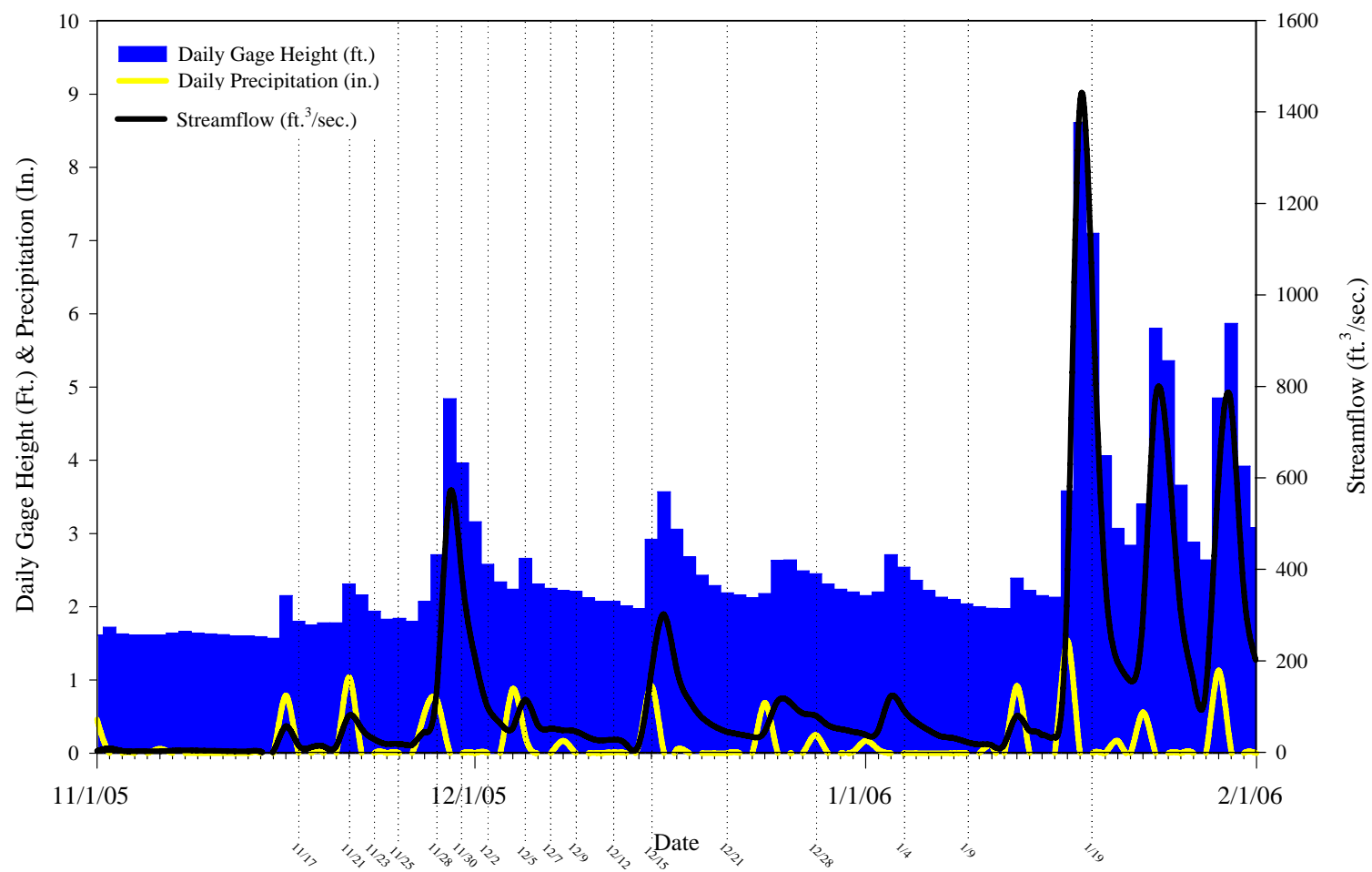


FIGURE 18. HYDROLOGIC CONDITIONS IN CATOMA CREEK DURING THE LARGEMOUTH BASS TRACKING STUDY, NOVEMBER 17, 2005 THROUGH JANUARY 19, 2006. DOTTED LINES INDICATE DAYS WHEN FISH WERE LOCATED USING A SONIC TRACKING DEVICE.

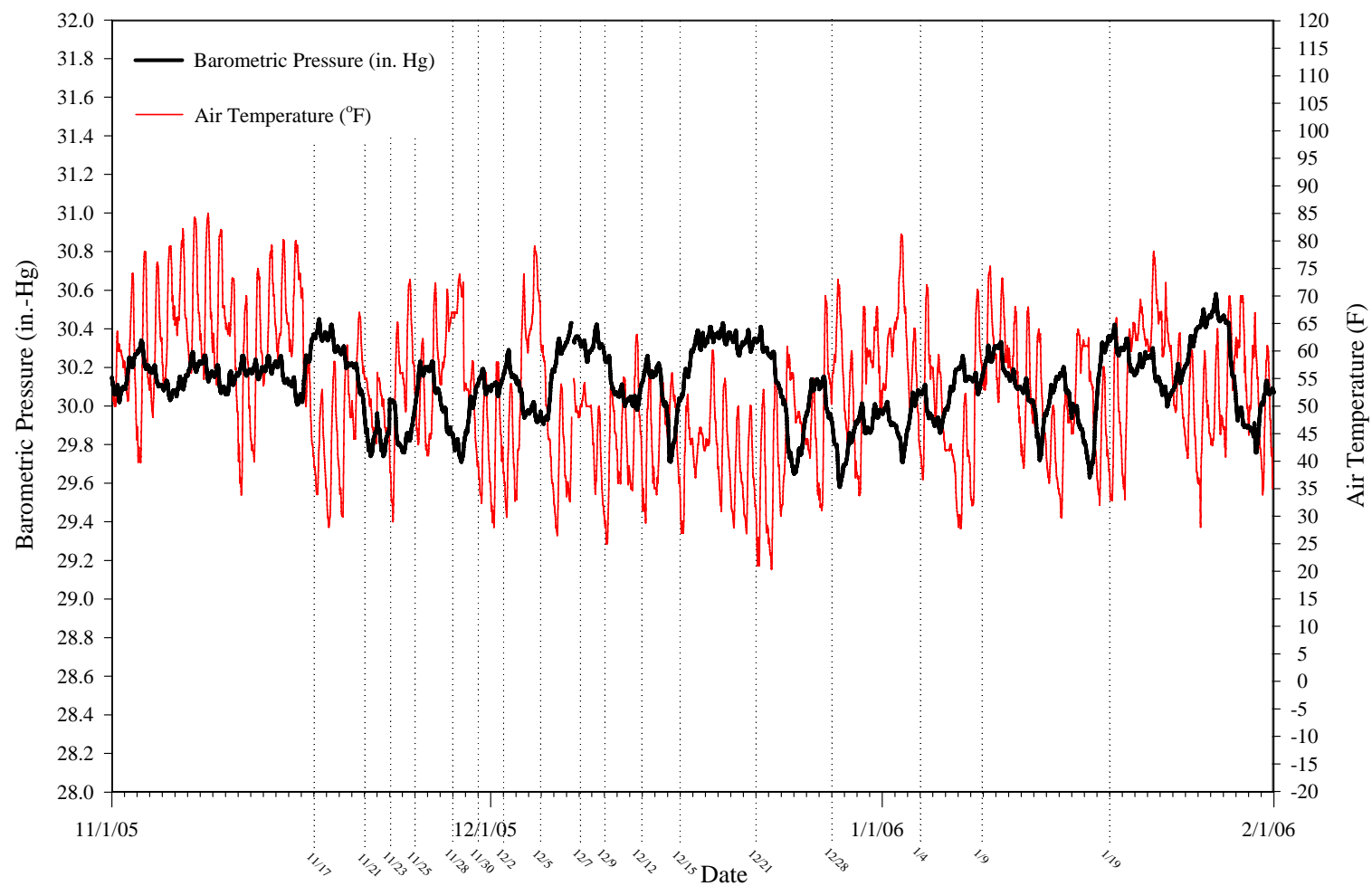


FIGURE 19. HOURLY BAROMETRIC PRESSURE AND AIR TEMPERATURE MEASURED AT MONTGOMERY, ALA. DURING THE LARGEMOUTH BASS TRACKING STUDY, NOVEMBER 17, 2006 THROUGH JANUARY 19, 2006. DOTTED LINES INDICATE DAYS WHEN FISH WERE LOCATED USING SONIC TRACKING.

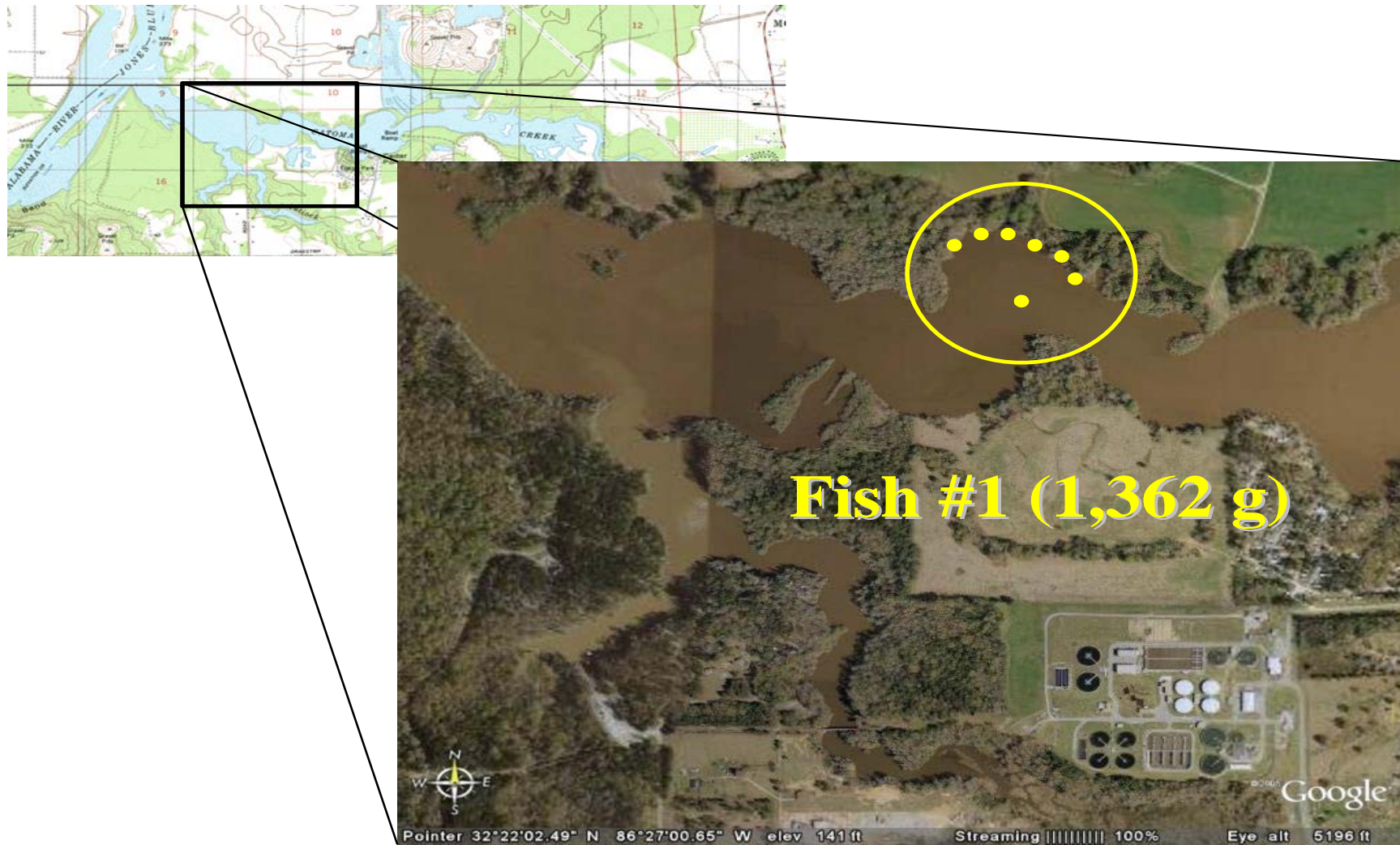


FIGURE 20. HOME RANGE AND SPECIFIC LOCATIONS OF FISH #1 DURING THE LARGEMOUTH BASS TRACKING STUDY.

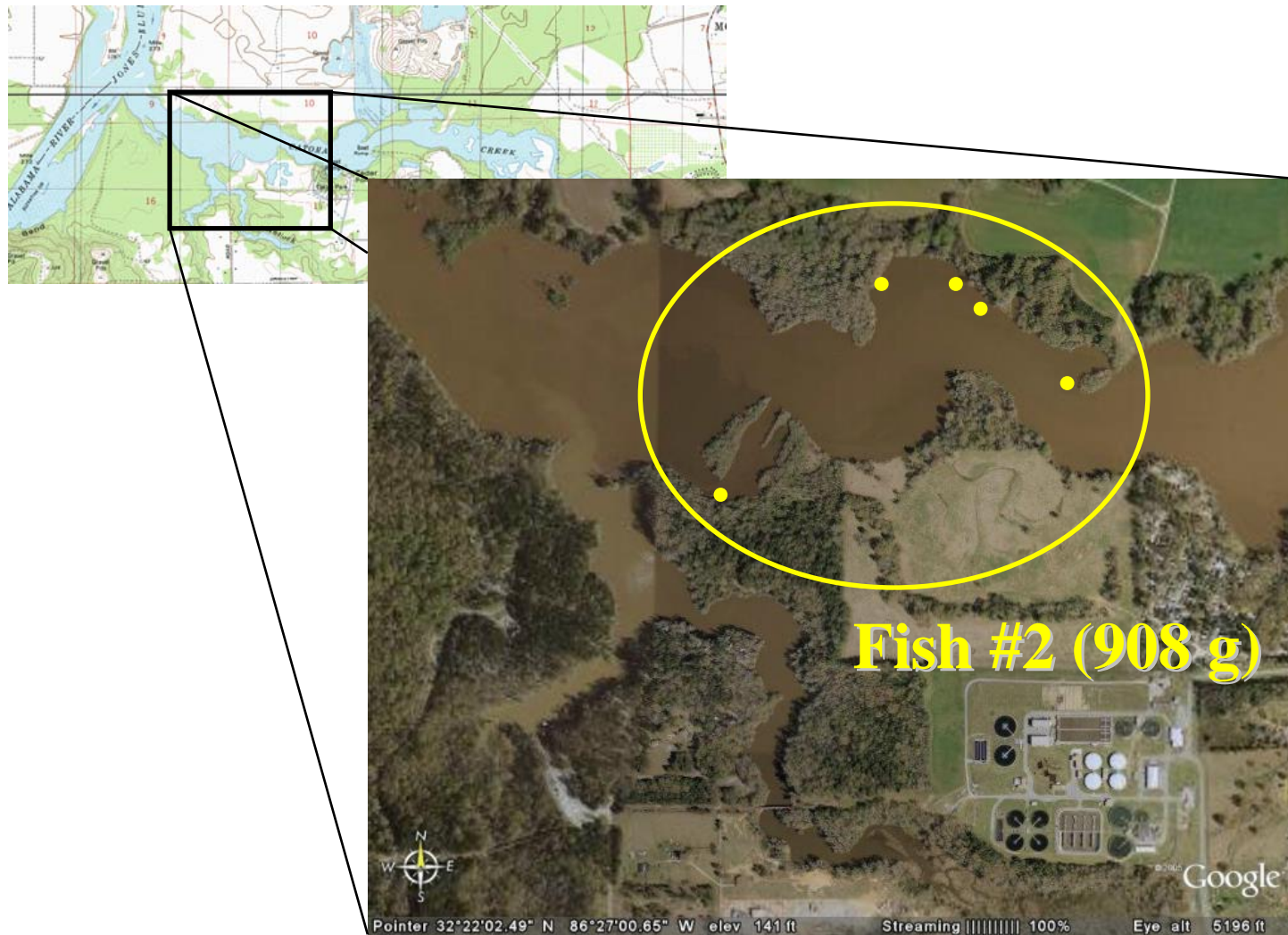


FIGURE 21. HOME RANGE AND SPECIFIC LOCATIONS OF FISH #2 DURING THE LARGEMOUTH BASS TRACKING STUDY.

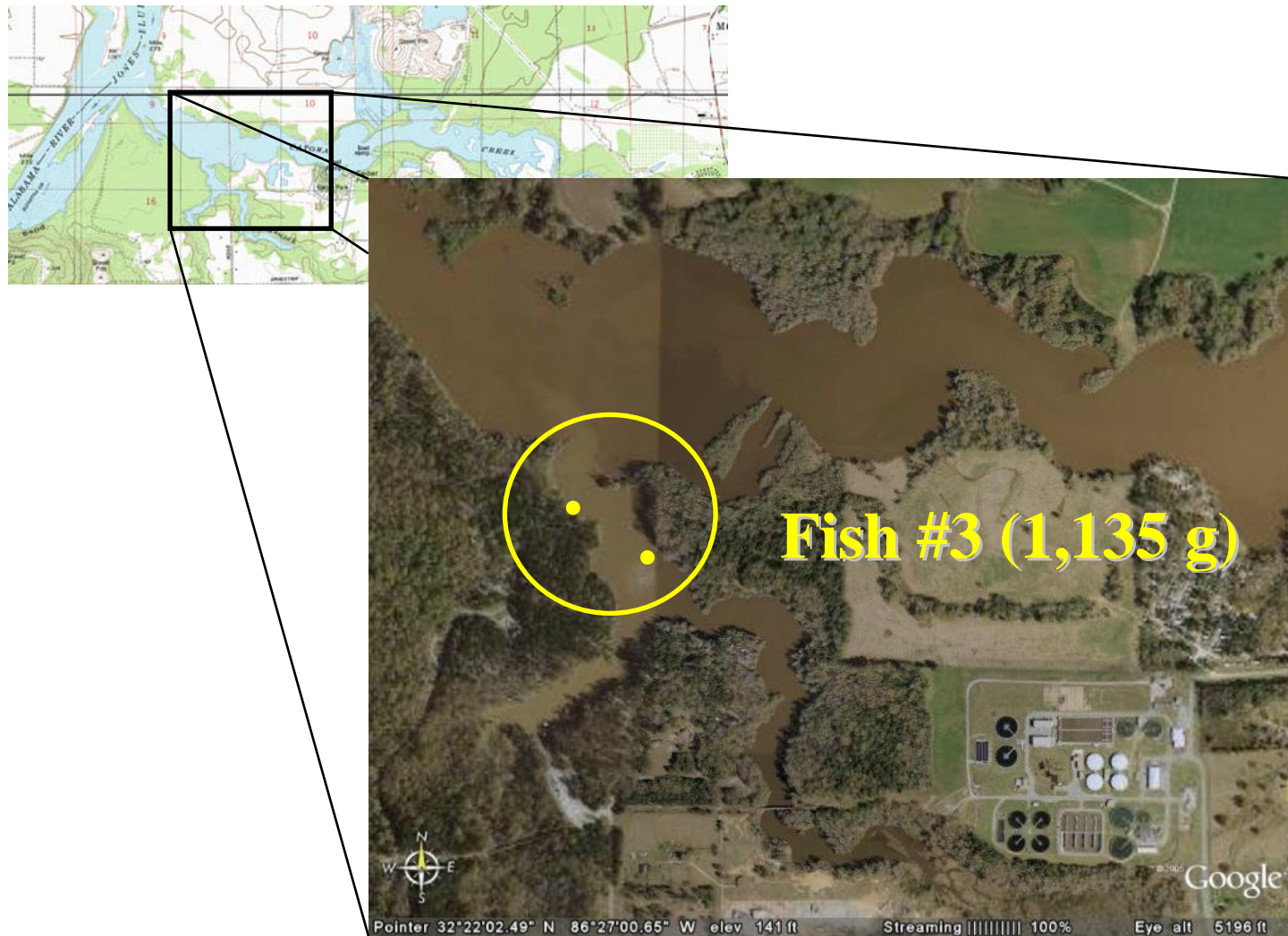


FIGURE 22. HOME RANGE AND SPECIFIC LOCATIONS OF FISH #3 DURING THE LARGEMOUTH BASS TRACKING STUDY.

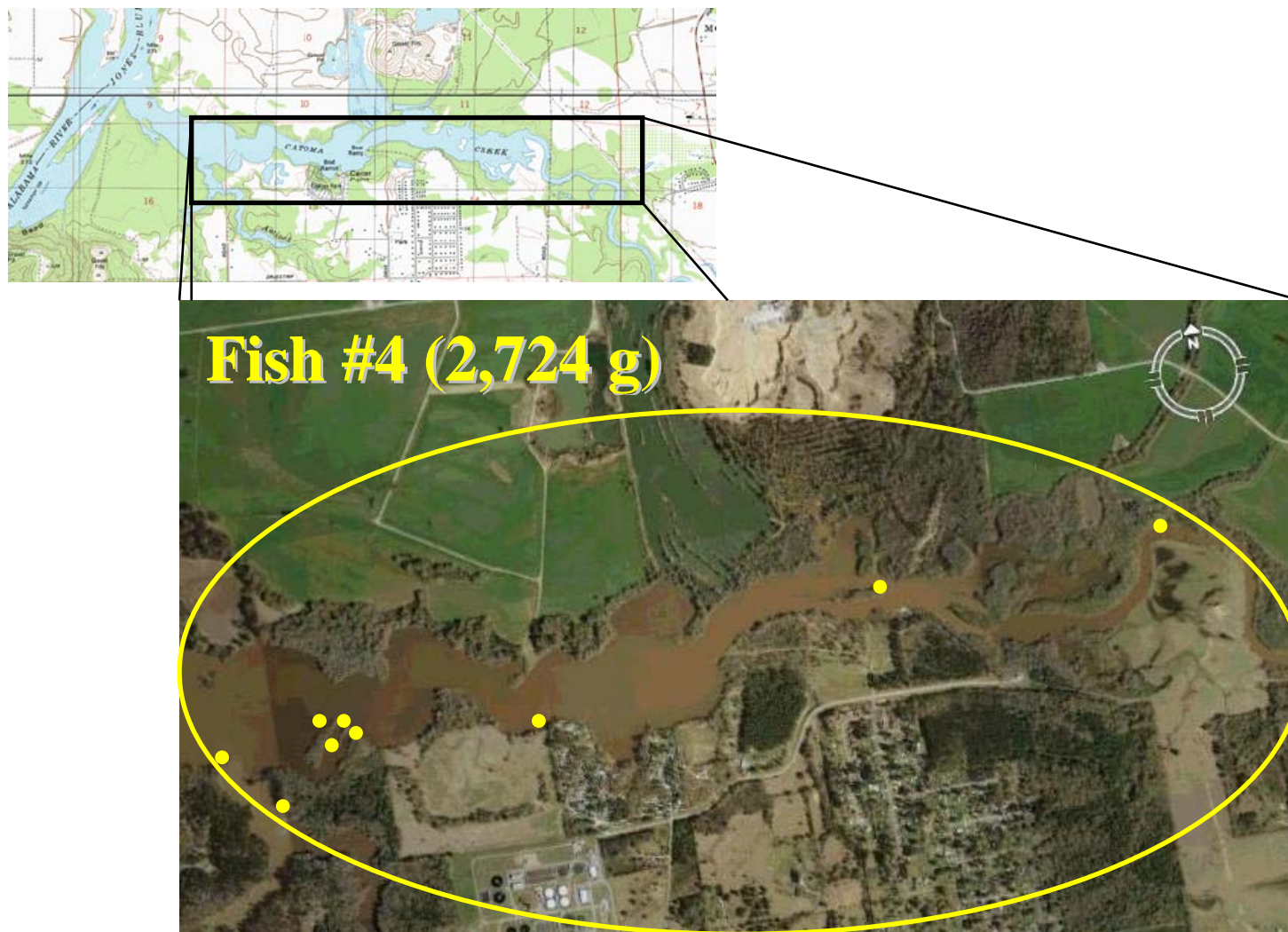


FIGURE 23. HOME RANGE AND SPECIFIC LOCATIONS OF FISH #4 DURING THE LARGEMOUTH BASS TRACKING STUDY.

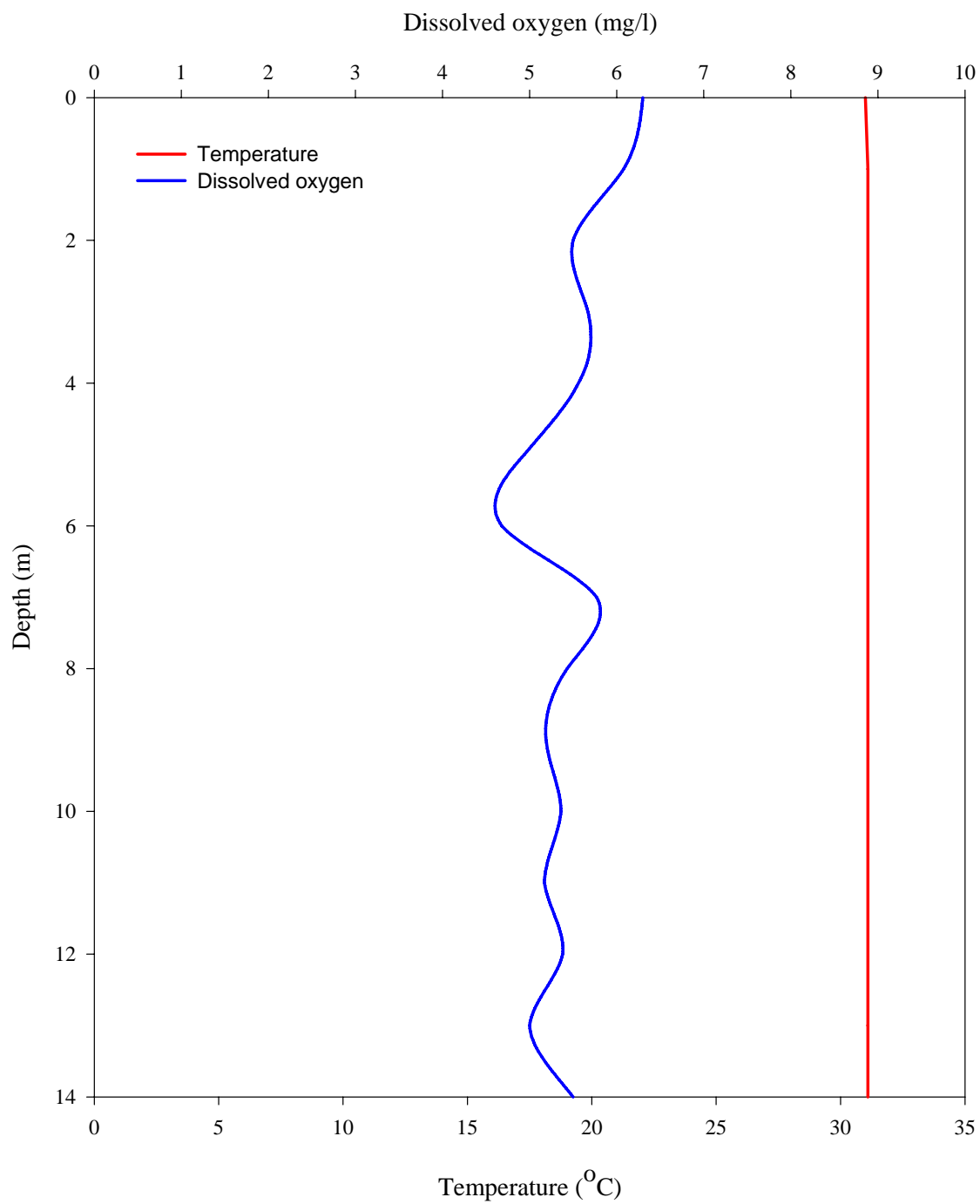


FIGURE 24. TEMPERATURE AND DISSOLVED OXYGEN PROFILES IN THE JONES BLUFF DAM FOREBAY, AUGUST 16, 2006.